

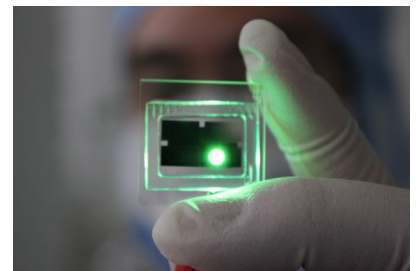
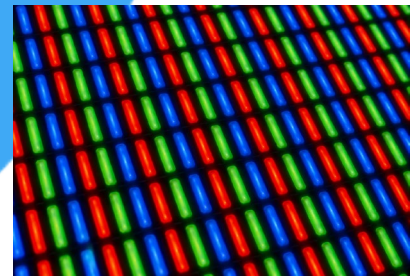
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imagination to stay ahead



World-wide contract research business to deliver integrated values to industries

- ❑ In-House Device Characterization
- ❑ Organic-on-Si
- ❑ Optical Interconnects
- ❑ Barrier Film Evaluation



What We Offer—The art of prototyping

Type of offerings	Examples	Customers and demands	
R&D by contract	<ul style="list-style-type: none"> • FMM-free RGB pixelization with photolithography • μ-OLED development • Advanced tandem design 	<ul style="list-style-type: none"> • Tech-giants • Fabless • Equipment vendors 	<ul style="list-style-type: none"> • Basic research • Proof-of-concept • Prototyping
Leading-edge technological support	<ul style="list-style-type: none"> • OLED fabrication and evaluation • WVTR data for barrier films 	<ul style="list-style-type: none"> • OLED materials vendors • Functional materials vendors 	<ul style="list-style-type: none"> • Early product development • Screening
	<ul style="list-style-type: none"> • High class OLED evaluation • Device reproducibility data 		<ul style="list-style-type: none"> • Proof-of-value by device performance • Product marketing
	<ul style="list-style-type: none"> • Materials quality control 	<ul style="list-style-type: none"> • Materials vendors • Panel makers 	<ul style="list-style-type: none"> • Pre-production
	<ul style="list-style-type: none"> • R&D consulting • Marketing support 		<ul style="list-style-type: none"> • OLED pre-production

In-House Device Characterization

Our capability

- Self-completion of fabrication and characterization of customized electronic device in-house.

Customer benefit

- Proof-of-value of products under development.
- Confidentiality of customer is maintained.

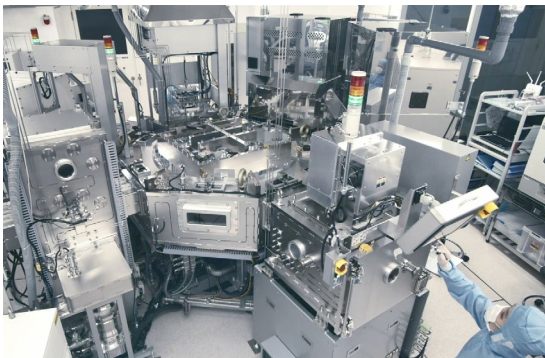
Clean Room Facilities



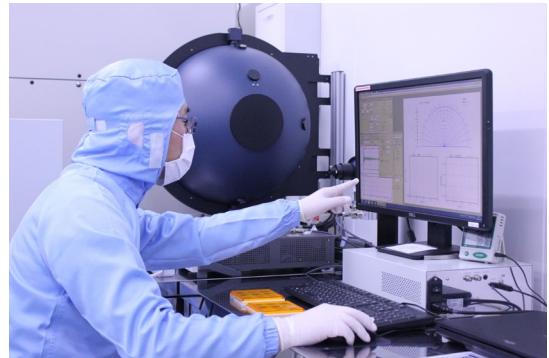
Substrate Patterning



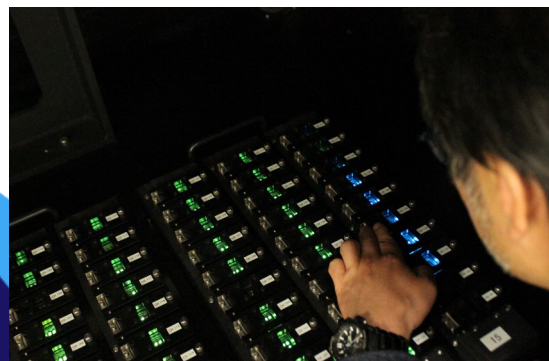
Vacuum Thermal Evaporation Systems



Device Characterization



Lifetime Measurement



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Organic-on-Si

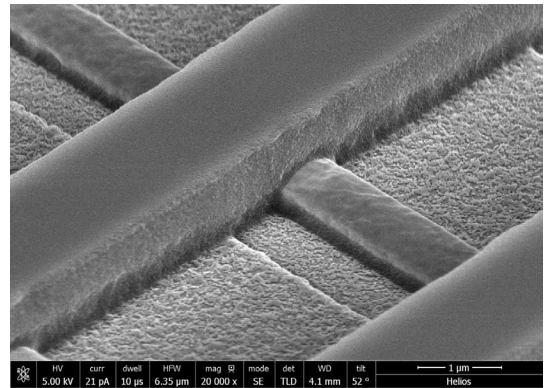
Our capability

- Prototyping, model-making and ex-ante evaluation of organic/inorganic hybrid devices.

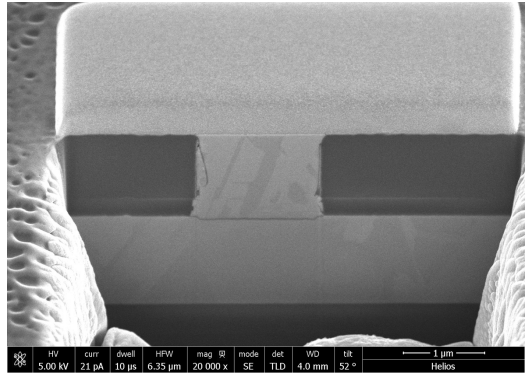
Customer benefit

- To prove your novel concept for next generation architecture.
- We support your business development.

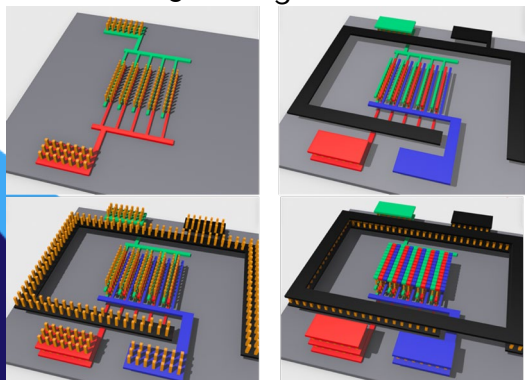
Photolithography and Dry-Etching



DRIE, plating and Via



3D wiring



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Optical Interconnects

Our capability

- Prototyping of RF switching light-emitting devices.
- Prototyping and evaluation of optical interconnect modules.

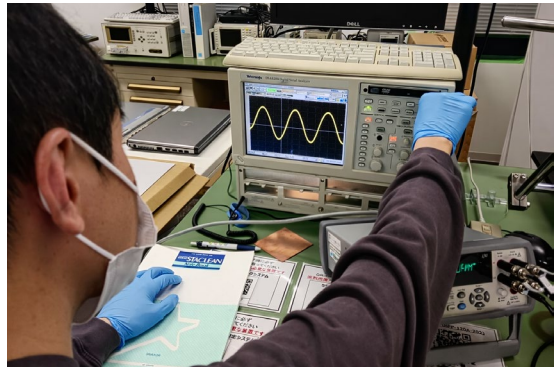
Customer benefit

- Proof-of-value of EO materials under development.
- Ex-ante evaluation of optical communications.

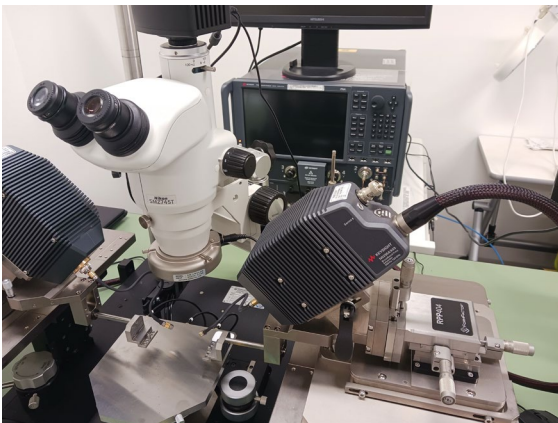
Signal Generation and Detection



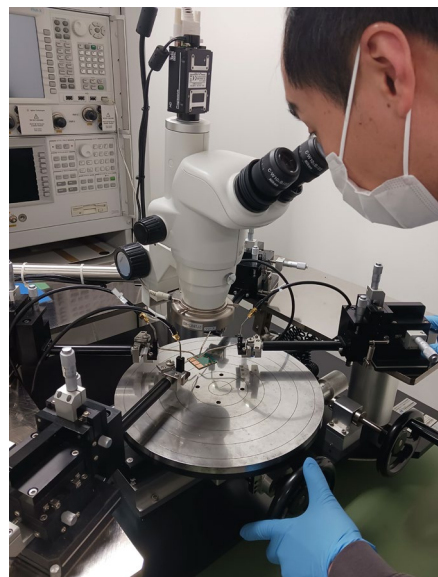
RF Measurements



Network Analyzer



RF Device Characterization



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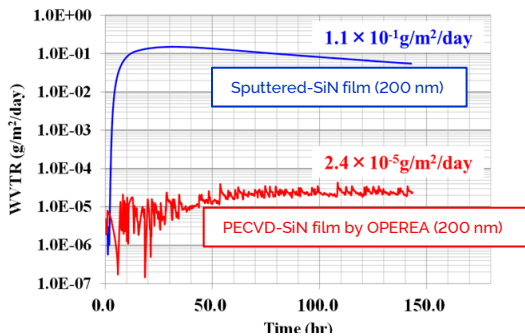
Barrier film evaluation

Water vapor transmission rate test

- ❑ We undertake one-stop R&D by contract, providing a range of OLED evaluation and WVTR measurement services
- ❑ We also offer one-shot WVTR measurement service under a business tie-up with MORESCO

Modified differential pressure method with an attached support

- World-class high accuracy for absolute WVTR value (calibrator authenticated by AIST)
- Measurement in a short time
- Transmission rates of various gasses

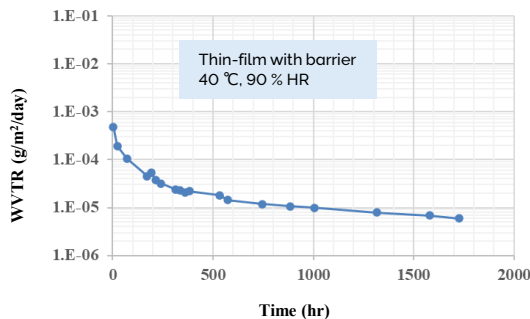


WVTR measurement system owned by OPERA Solutions (MORESCO: Super-Detect)

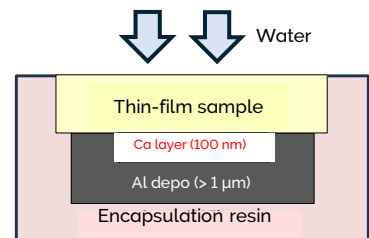
Sample size: 90 mm-Φ

Ca corrosion method

- CCD imaging of corrosion (dark spot) shape/area
- Multiple sample measurements simultaneously
- Capably of small/ultra-thin sample measurement



Schematic of sample cross-section



Sample size: 30 mm²

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