

ICON Photonics



Innovative solutions of optical coupling for very high-speed communications

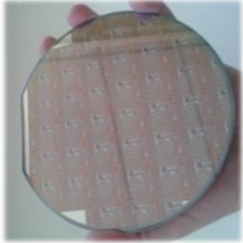
ICON Photonics
ESIEE Paris' spin-off

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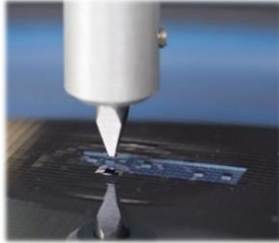


ESIEE
PARIS

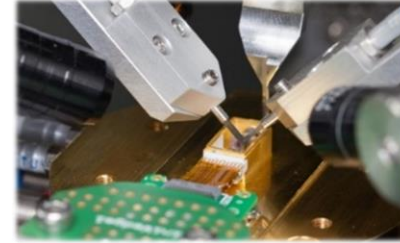
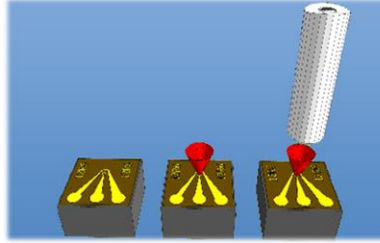
Context and Technology



Source: ESIEE Paris



Source: Ficontec



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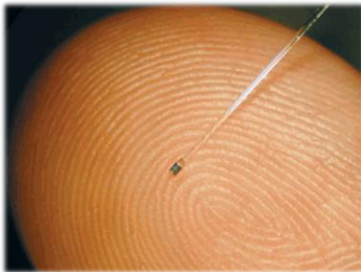
Wafer ~ 50.000 chips
(emitters or receivers)

Chips dicing

Chips/optical fibers coupling

Packaging

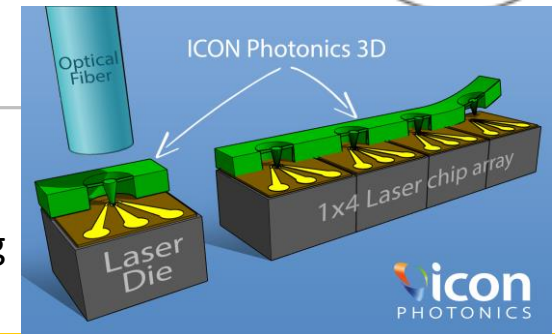
Module
packaged



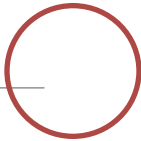
Market orientation : smaller & faster chips

Challenge : smaller chips= more complex & expensive fiber coupling

Assembly & packaging = **80% of the total module cost**



ICON Capabilities



Characterization & testing



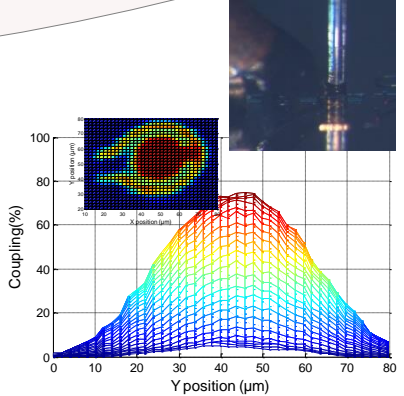
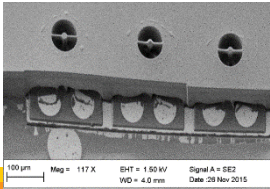
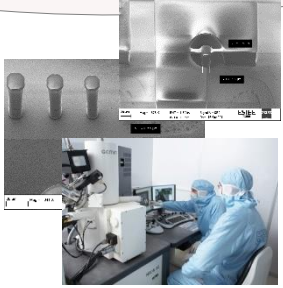
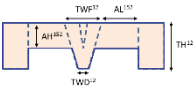
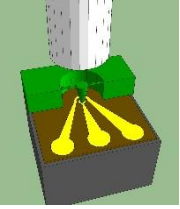
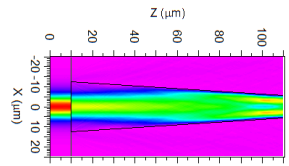
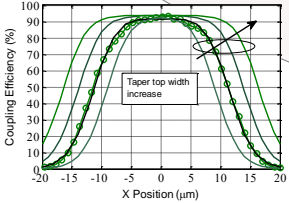
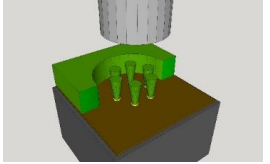
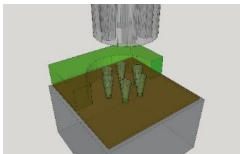
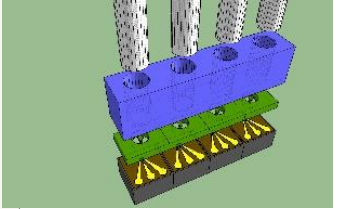
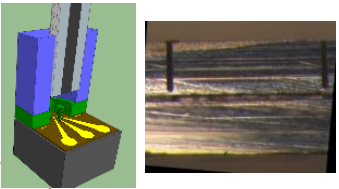
Fabrication & production



Design



Simulation



Perspectives - Vision

- coupling of coherent laser matrix for computing and sensing application-increasing the density of laser and PD arrays (pitch 100 μ m and 20 μ m)
- ultra-high-capacity modules single-channel and multi-channel with over 100Gbps to 1Tbps respectively - 800Gbps and 1.6Tbps transceivers
- Photonics Integrated Circuits and 3D integration
- High directive single-mode or multimode VCSEL for sensing
- Coupling to MCF fibers with various geometries