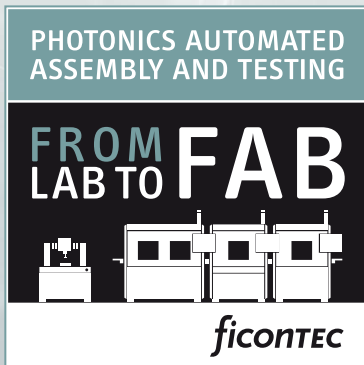


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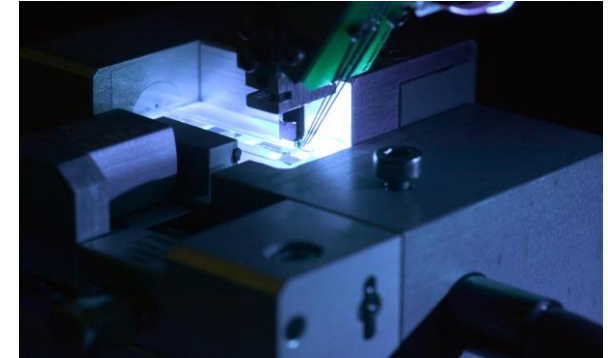
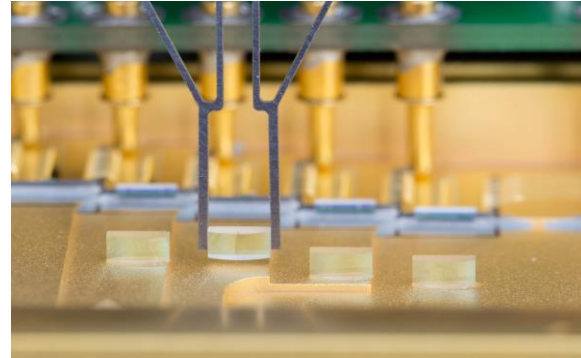
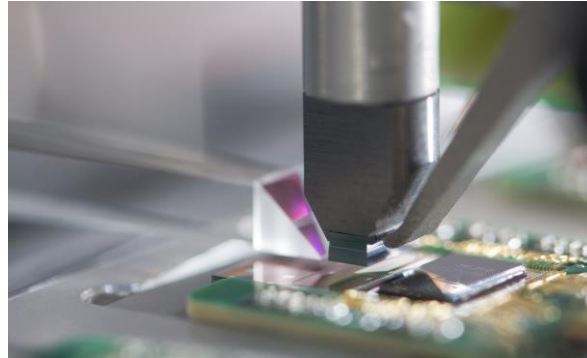
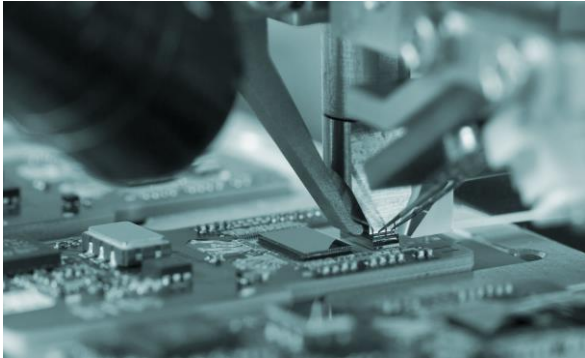
photonics assembly & testing

EPIC Online Technology Meeting on PIC Packaging and Testing



Josue Parra Cetina
ficonTEC Ireland Ltd.





Core business:

Cutting-edge, volume-capable assembly & testing solutions for the production of advanced photonic-enabled components, devices and modules. There are 2 principal functions:

- **align-&-attach** optical elements/fibers/arrays, opto-electronic dies, integrated photonics (PICs)
 ... using UV-cured epoxy and thermal or laser-assisted eutectic bonding
- **test-&-qualify** validation & verification, electro-optical EOL testing, electro-optical wafer-level testing

Other systems - laser bar stacking, laser welding, automated inspection (AOI) - provide peripheral support tools.

From Prototype Machines to Mass Production



Lab System with
Production capability



Production System with
Development capability



Automated Production System
consisting of 1 Input Feeder; 1
System; 1 Output Feeder



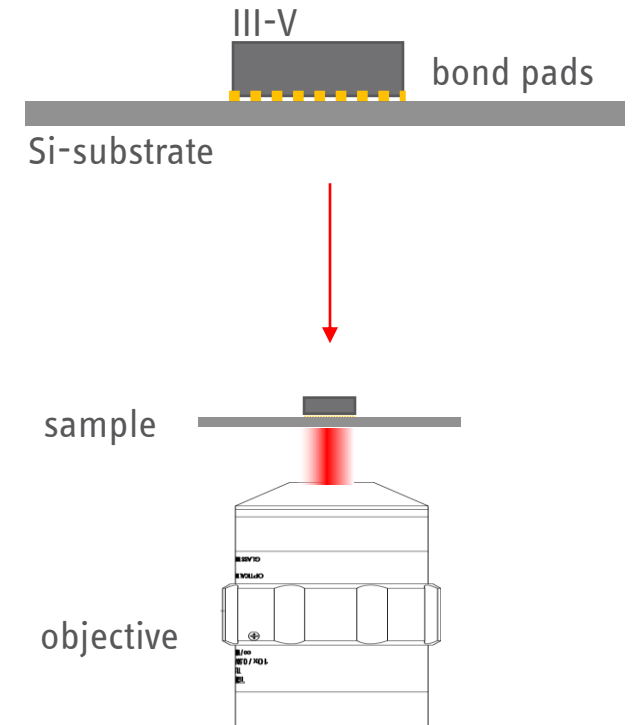
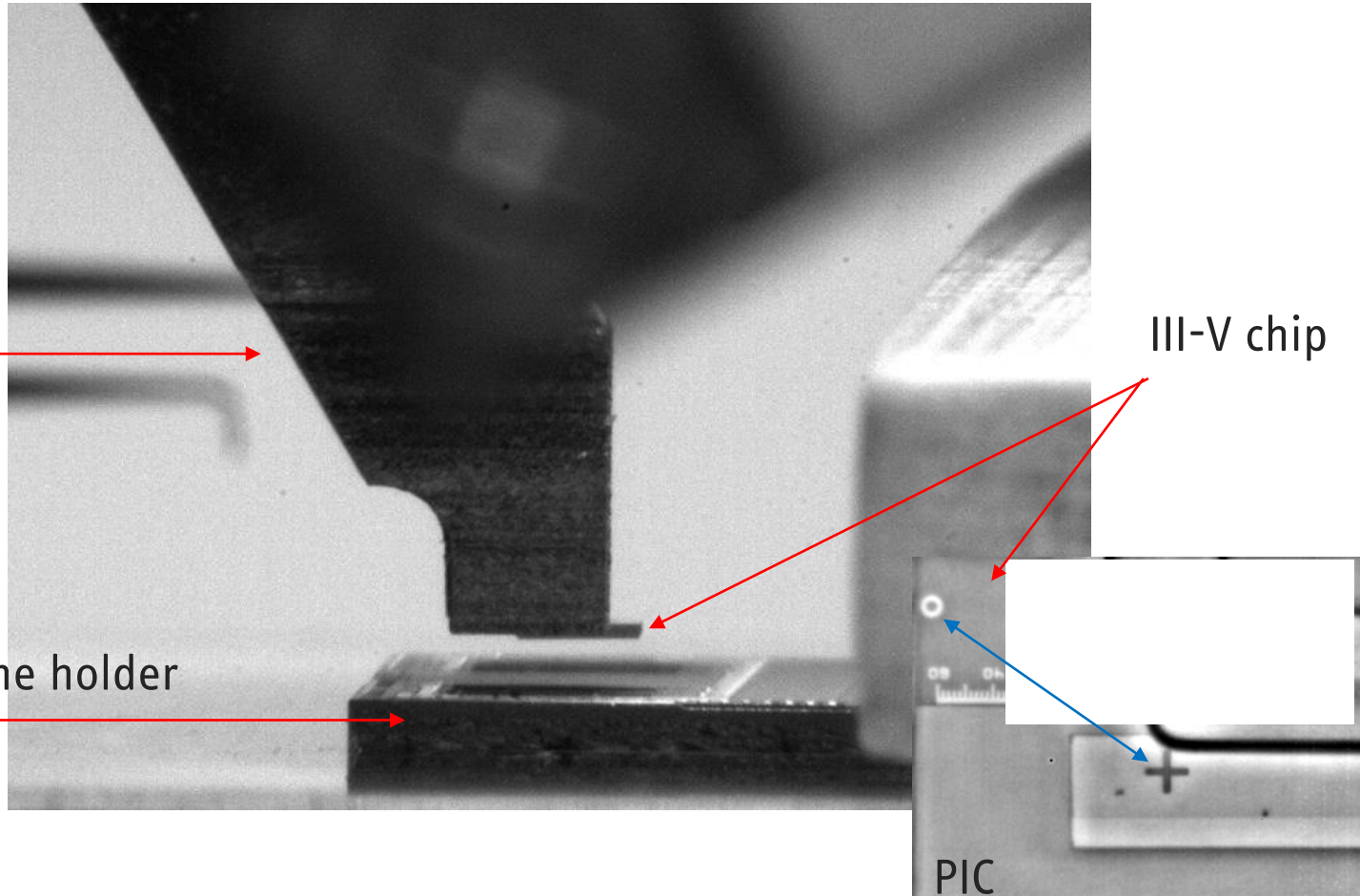
Close collaboration between product owner and assembly partner

→ Design for manufacturing

Alignment- IR Vision Test

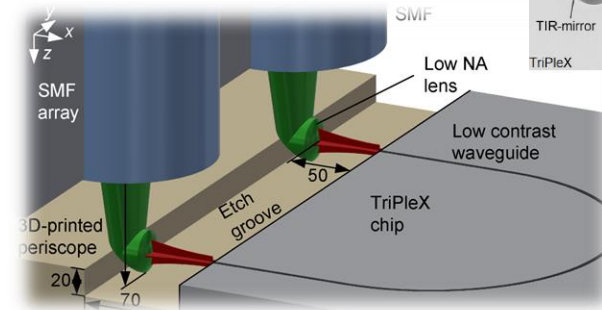
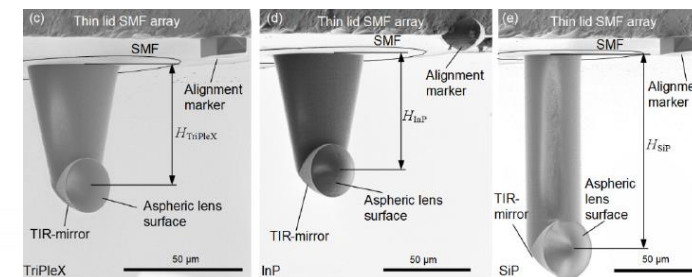
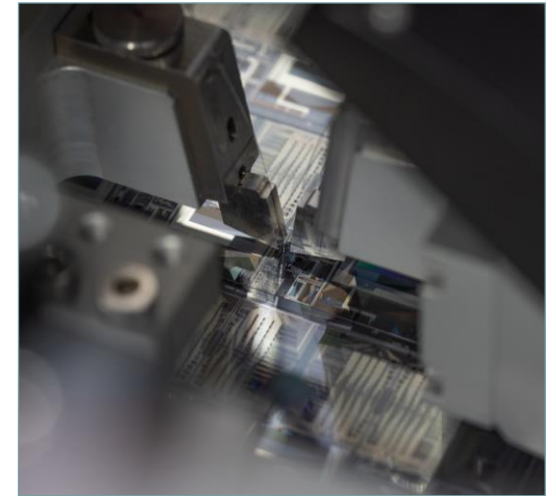
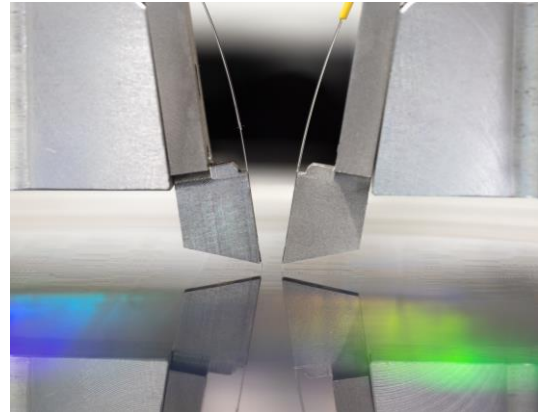
Pickup tool on high accuracy 6-axis aligner

Si PIC fixed on the holder



100nm steps are detectable through silicon wafer

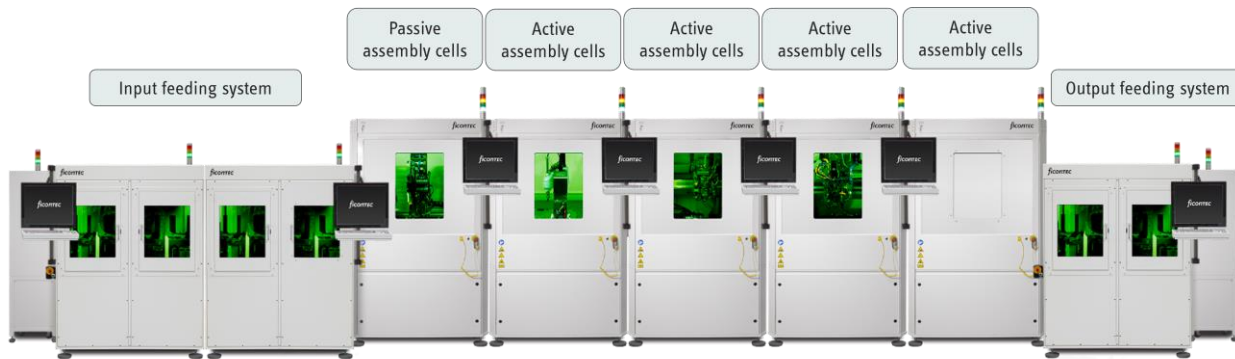
Wafer Level Testing (WLT)



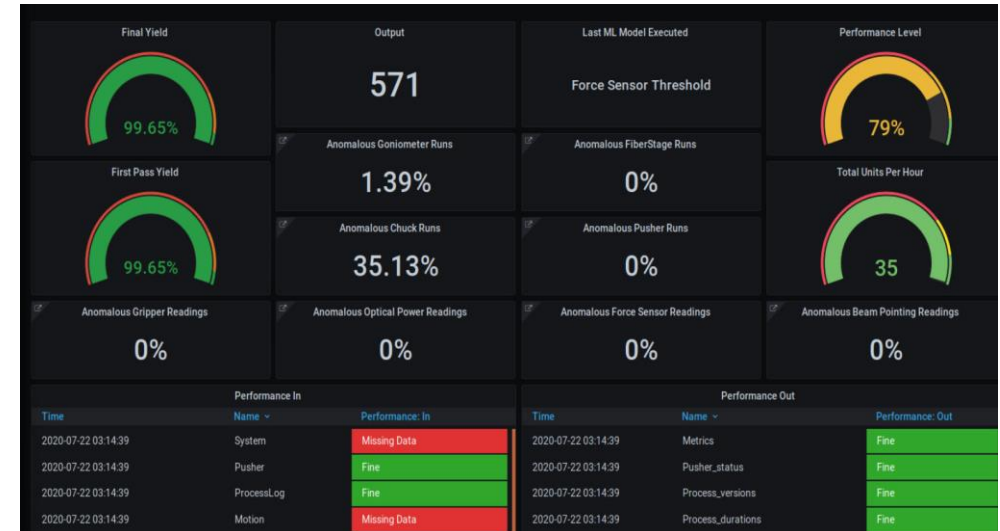
- Much more than only the machine
- Needs
 - Optical probing
 - Electrical probing
 - Sophisticated measurement equipment
 - High-speed data analysis
 - Early adaptors for feedback

Mass Manufacturing Line

Raw Data Capture



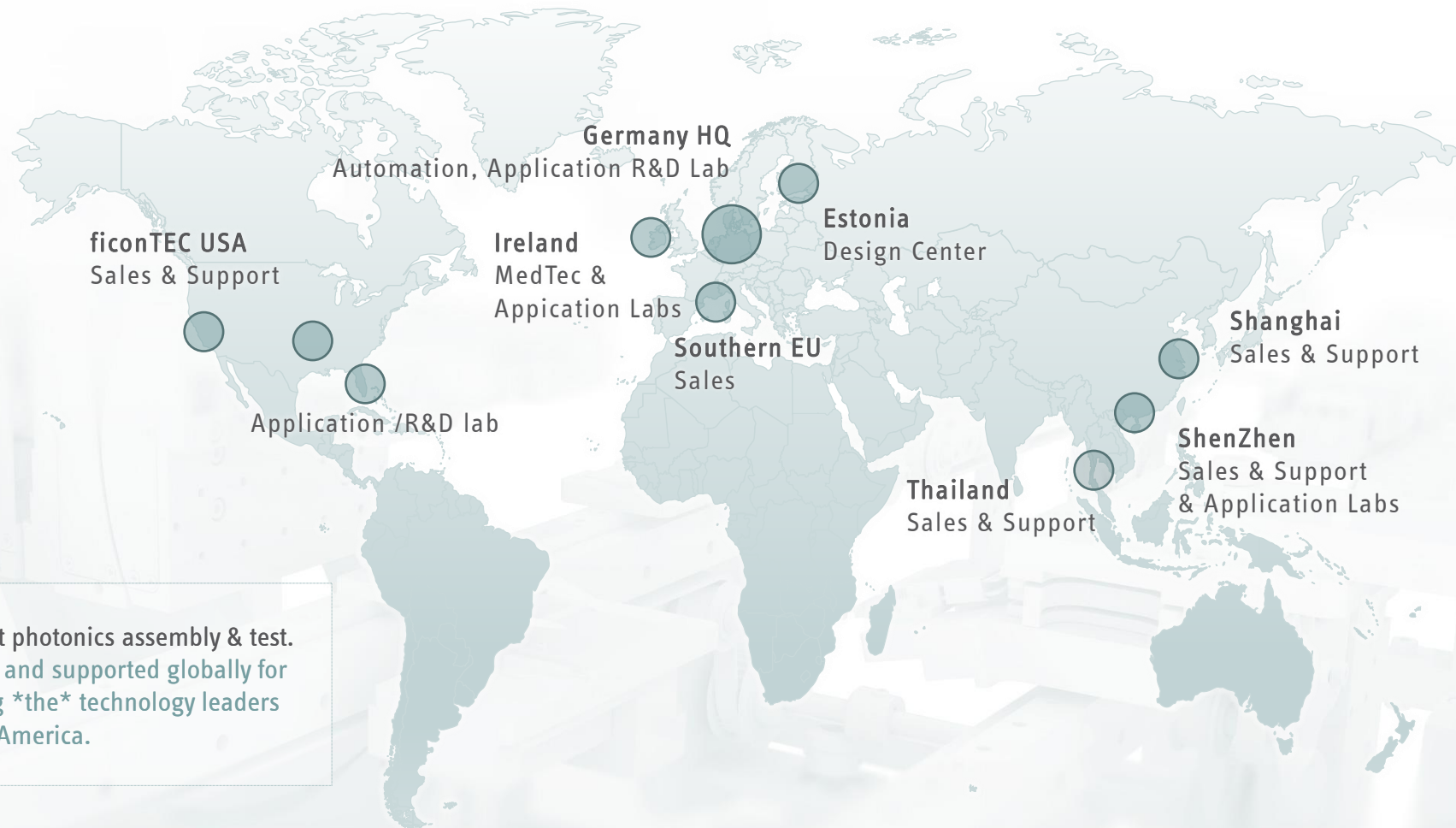
Real-time Monitoring



- Capture, time stamp, and analyze data in real time
- Uncover steps in process causing slow downs
- Volume Production line of:
 - Transceivers
 - Camera
 - Lidar



Global Sales and Service



>20 years of state-of-the-art photonics assembly & test. Over 1000 systems installed and supported globally for a customer base comprising *the* technology leaders across Europe, Asia and N. America.

Thank you!

Josue.parra@ficontec.com