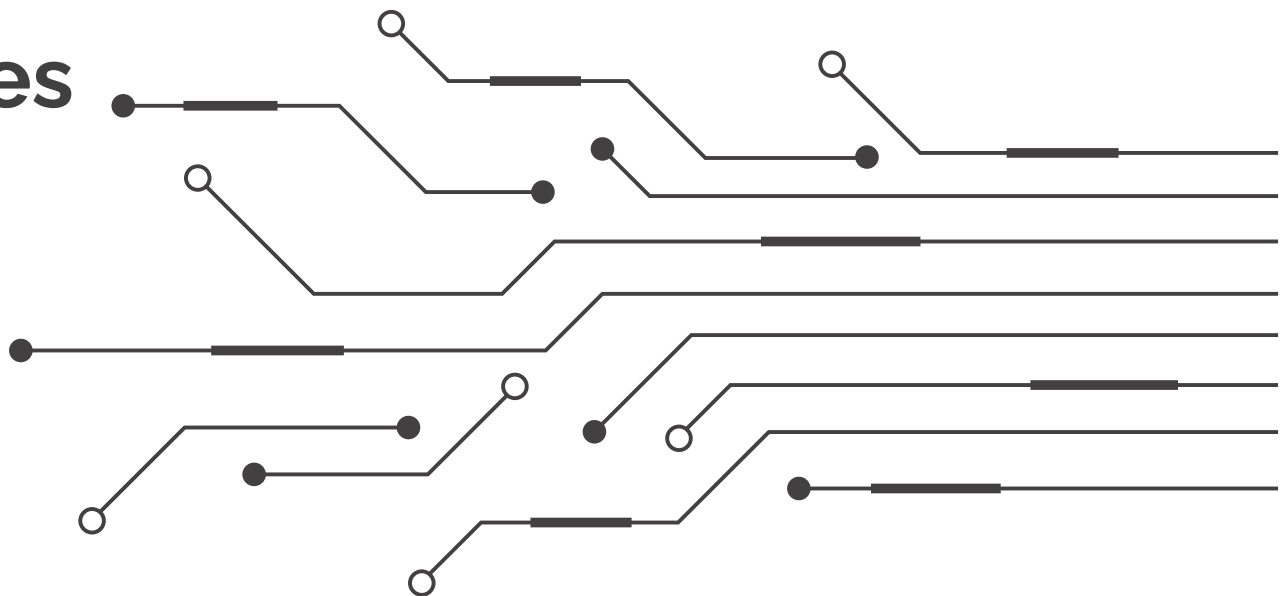




PICadvanced

Packaging Services

global@picadvanced.com



Cofinanciado por:



About PICadvanced



2014

Privately held company foundation

27M€

Sales in 2022

2020

Series A
Verizon Ventures

1st

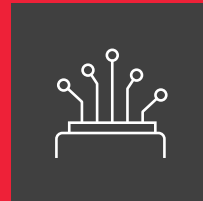
In the market with NG-PON2 ONU fully compliant solution

ONT

Contract award in 2021

50

Young team with multi-disciplinary knowledge



Excel in developing cost-effective cutting-edge solutions for Telecom



Investors

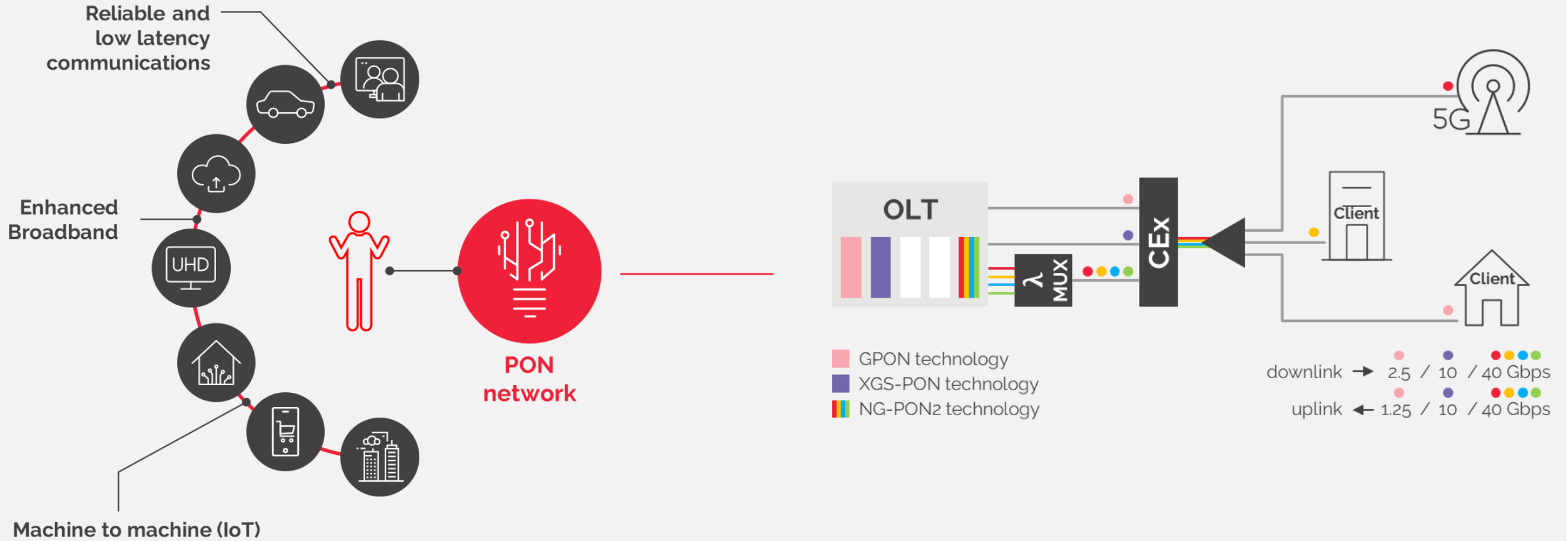


Partners

Through the years we have partnered with great companies and entrepreneurs all over the world.

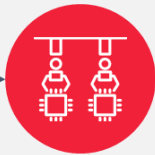
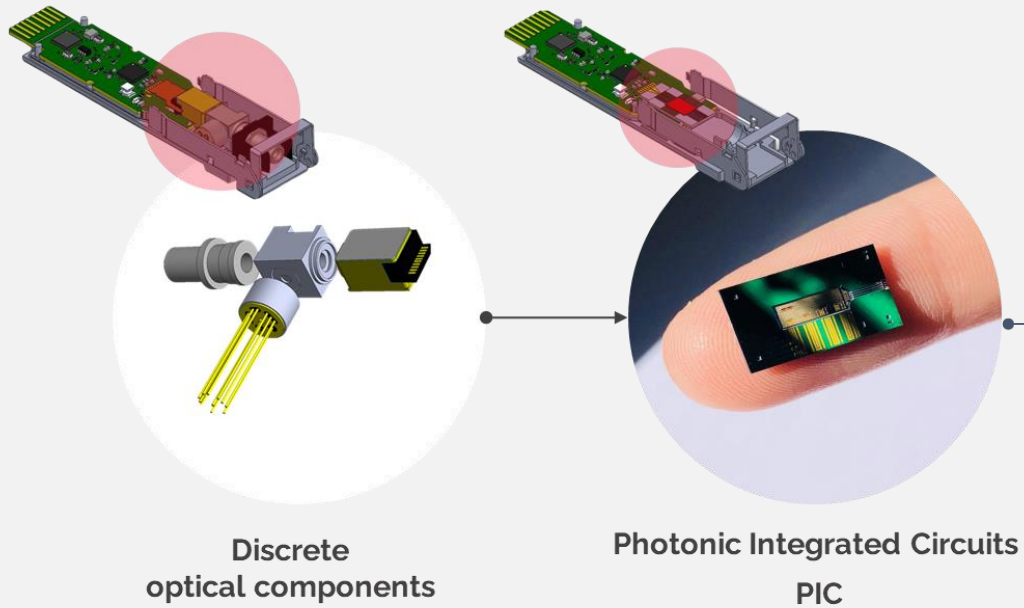


Passive Optical Networks – the backbone of our communications



Cofinanciado por:

Photonic Integrated Circuits : the Revolution



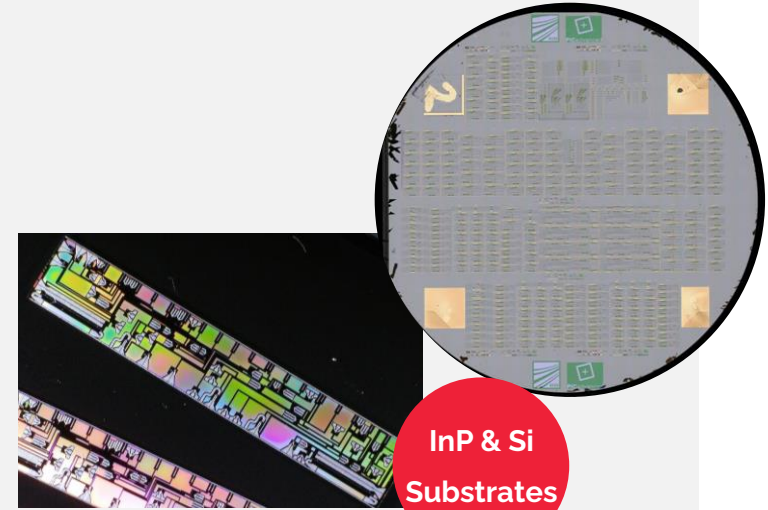
Mass production enabled



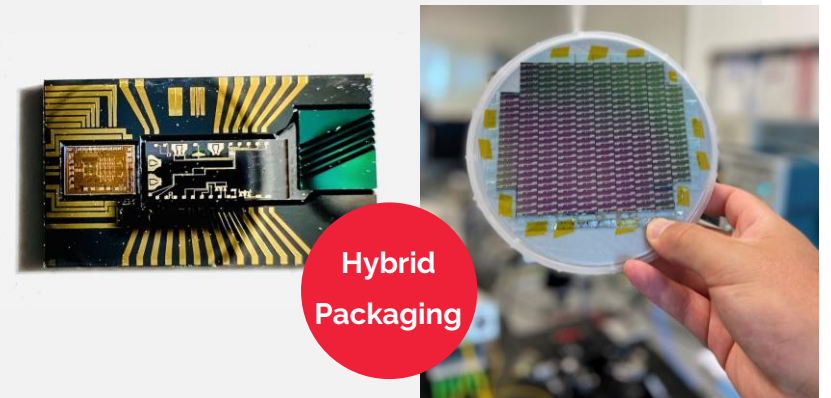
Cost advantage



Towards 25/50G seamless transition



InP & Si Substrates



Hybrid Packaging

Current services



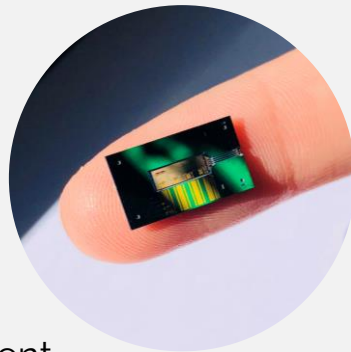
PIC testing and characterization

High frequency optical modulators and receivers
From diode to system automated test capabilities
In-house fast prototyping CNC PCB fabrication and 3D printing



Photonic Integrated Circuits

Simulation and design capabilities for the different platforms
High sensitivity provided by quasi-coherent receiver



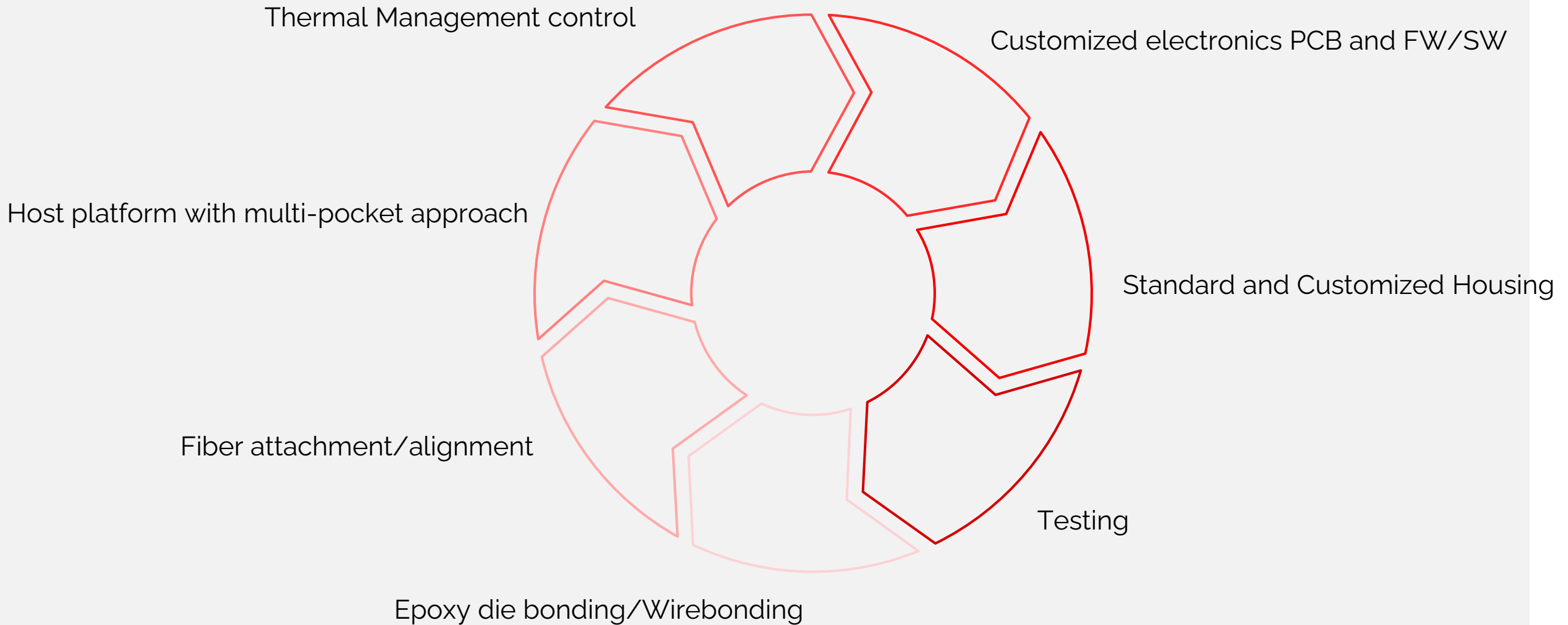
PIC Packaging

Multi-pocket approach
Efficient thermal management
Proprietary & innovative holder platform

Electronics, SW and FW

Design and layout of customized electronic PCBs
Customized Software for electronics
Customized firmware and control algorithms
Digital Signal Processing (DSP) for real-time applications
Production Line automation

Packaging capabilities



Packaging capabilities



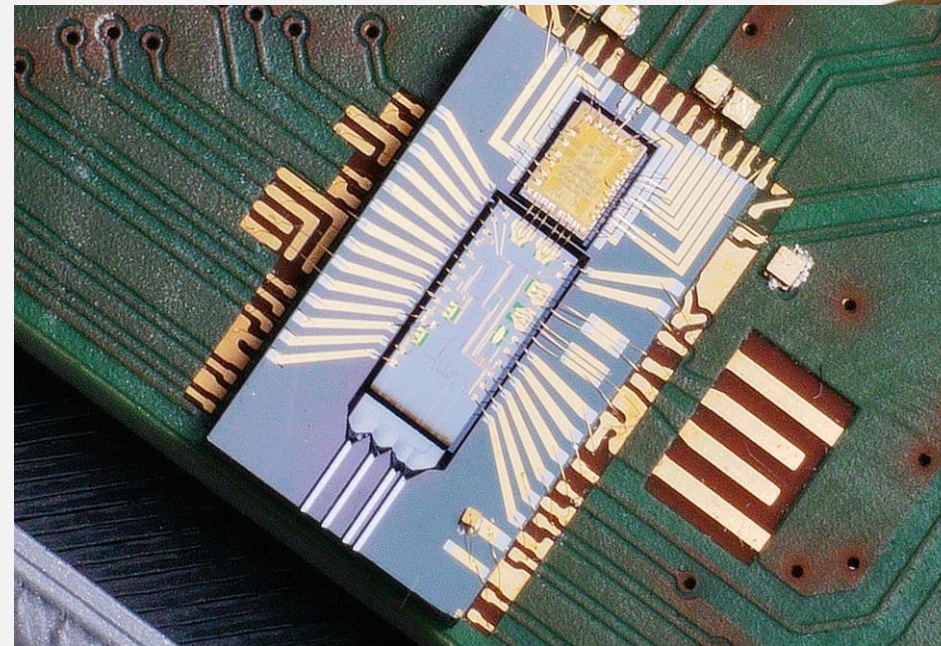
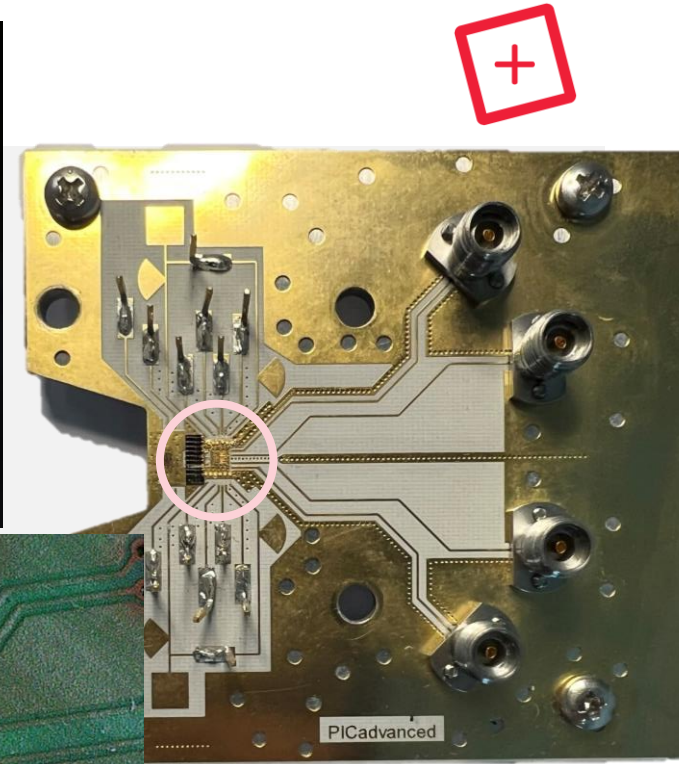
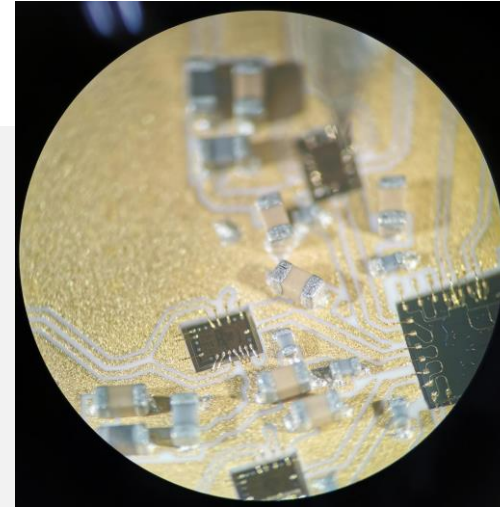
Epoxy die bonding & wirebonding

Epoxy die bonding

Precision epoxy and substrate matching

Wirebonding

Au wirebond



Packaging capabilities



Fiber attachment & alignment

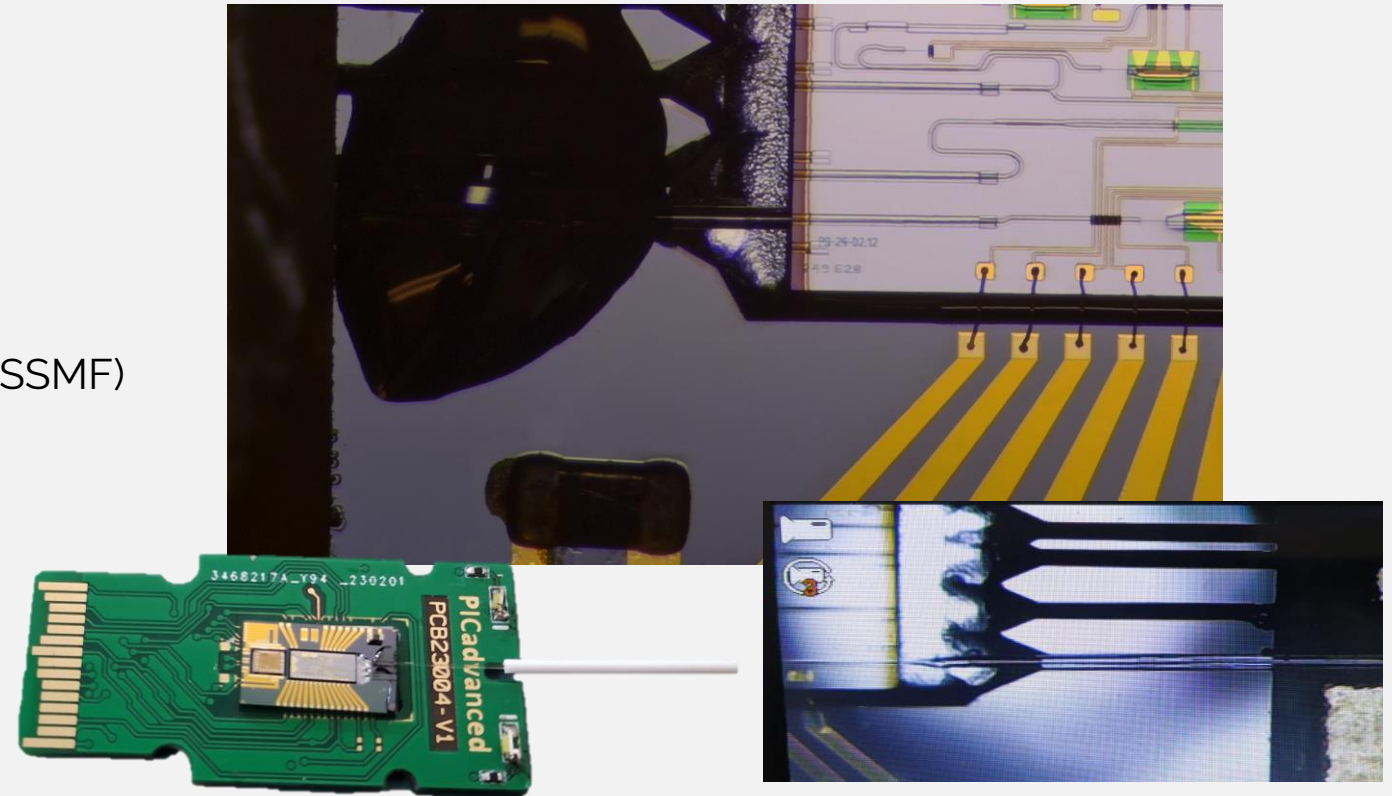
Proprietary automated process

1nm step resolution

50nm repeatability (bidirectional)

Low loss

Achieved less than 1dB of coupling losses (SSC-SSMF)



Packaging capabilities



Host platform with multi-pocket approach

Si-based platform

High-thermal conductivity

Angled and non-angled V-Grooves

0° and 23° angled v-grooves

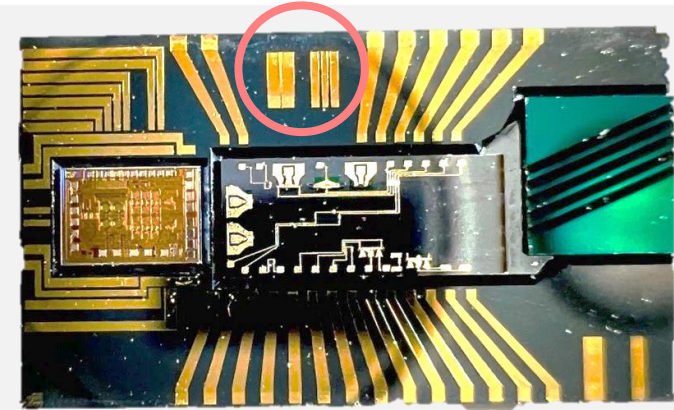
Multi-level cavity flexibility

Multiple cavity depths on the same host platform

RF and DC interconnections

High Bandwidth RF lines >30GHz

Less than 1dB of IL



Packaging capabilities



Thermal Management

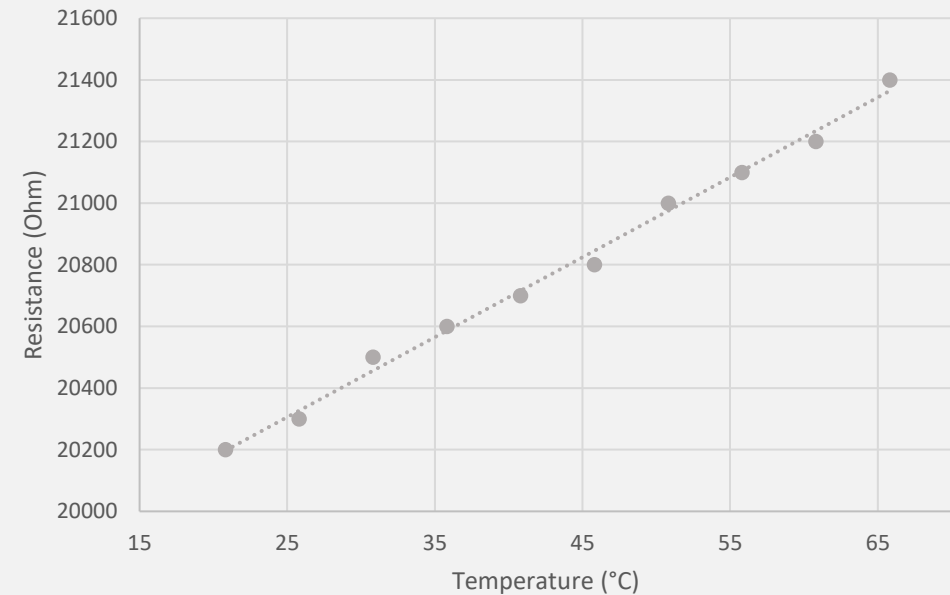
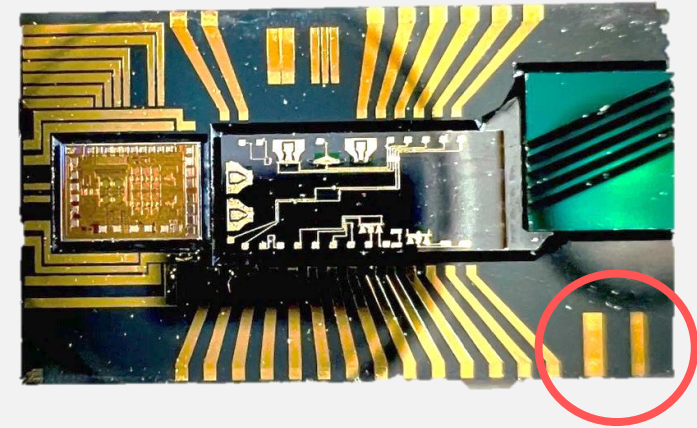
Temperature Sensors

High linearity Au integrated thin film temperature sensors on host platform

Thermo electric cooler

TEC sub mount applied on packaging for thermal control

Adaptative control of the TEC through customized FW



Packaging capabilities



Customized electronics PCB and FW/SW

PIC on PCB approach

Customized electronic PCB

Carefully designed for PICs (incl. TIAs and Drivers)

Customized Firmware control algorithms

Graphical user interfaced dedicated Software

Data collection and Automated Process





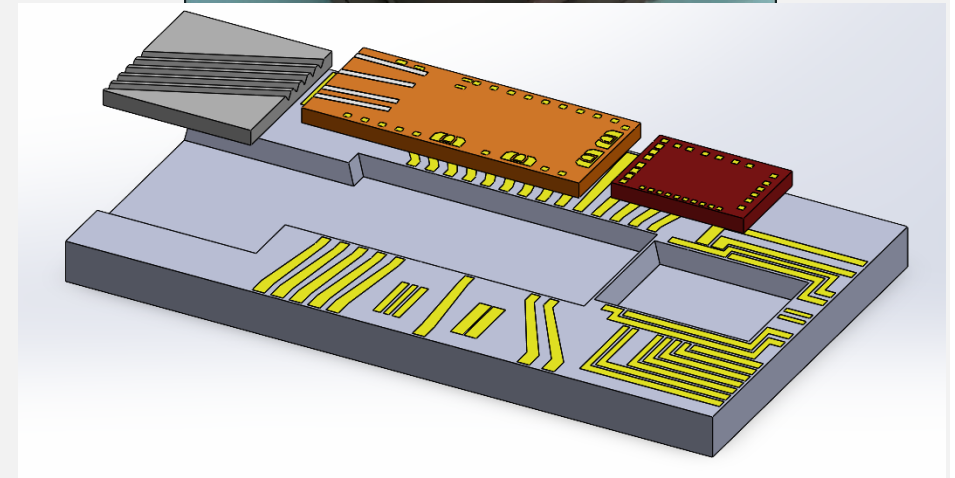
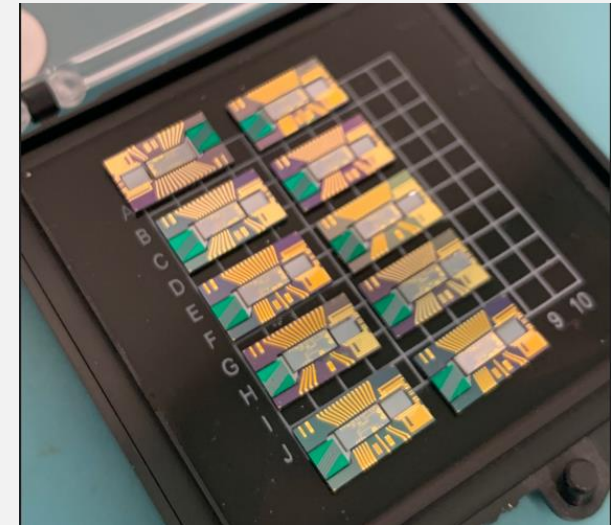
Standard and Customized Host Platform

Material Platforms

PICadvanced Host Platform provides a hybrid packaging solution for all major material platforms, Si, SOI, SiN and InP

Design and Modeling

PICadvanced Host Platform model 3D developed using Solidworks. We can provide 3D modelling of the full assembly integration to help customers get a clearer perspective of the project. Mechanical/thermal and electrical simulations with Ansys software for a complete model simulation





Standard and Customized Host Platform

Design Rules

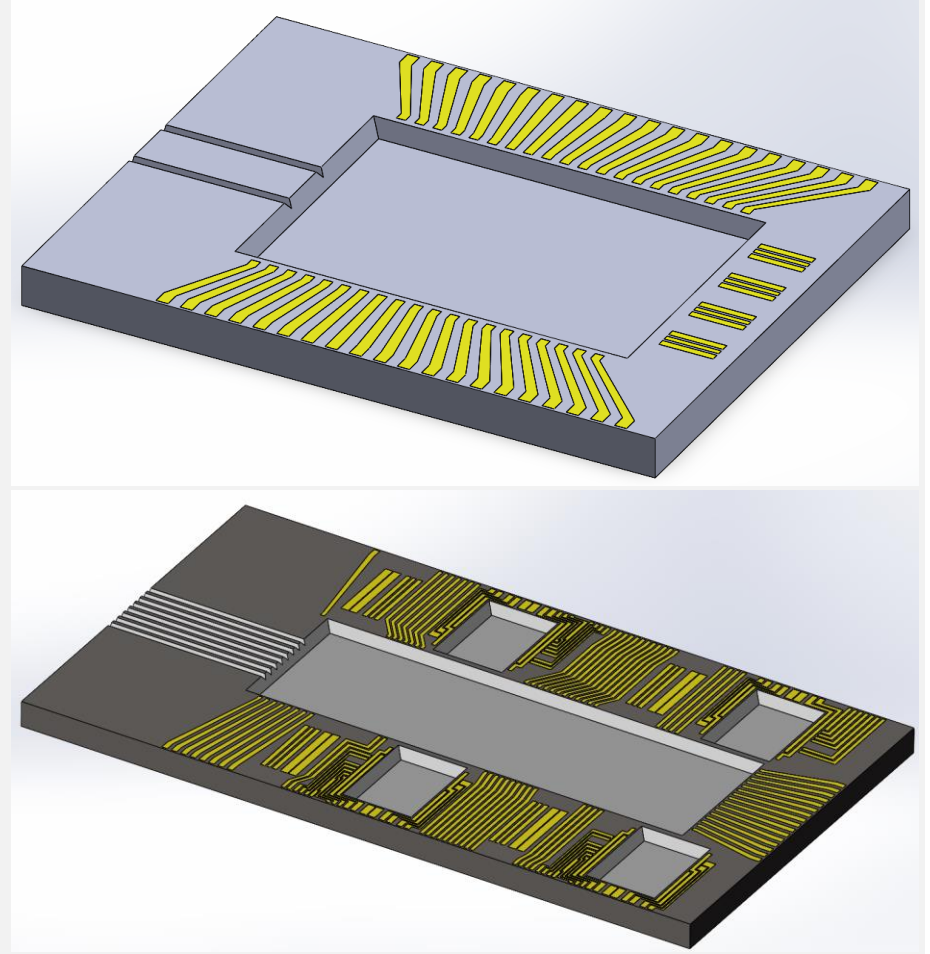
Set of pre-defined documented Design Rules to guide customers to fit their PIC design with our Platform and achieve seamless integration, enhanced reliability and optimal performance

Optical IN/OUT

Standard design with 2 optical In/Out and most complex customized designs up to 8 optical In/Out.

Electrical IN/OUT

Standard design with 40 DC and 4 RF tracks and most complex customized designs up to 60 DC and 8 RF tracks.



Packaging capabilities



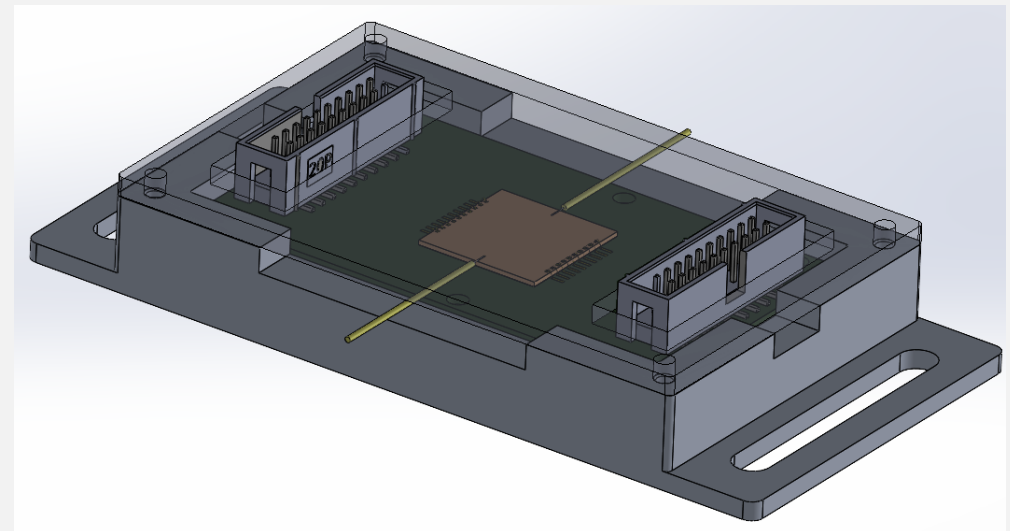
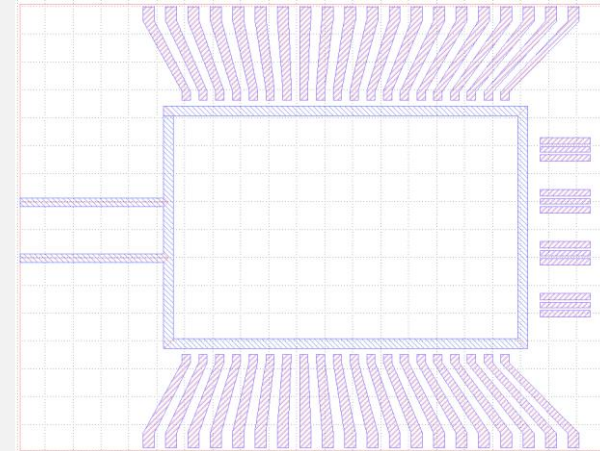
Standard and Customized Host Platform

Standard templates

We provide standard .GDS templates for InP and Si that customers can easily import into any PIC design software

Customization

We can work together with the customers to meet their most unique requirements and design a reliable and affordable customized prototype solution



Packaging capabilities



Standard and Customized Housing

Design and simulation

3D Mechanical and electrical design and simulation

Standard Housing

Full assembly on plug-and-play formats (XFP, SFP+, ...)

High precision manufacturing

Including PIC on host, host on PCB and PCB on custom housing



Packaging capabilities



Testing

BB characterization

Passive & active components

Dedicated test structure / jigs proven

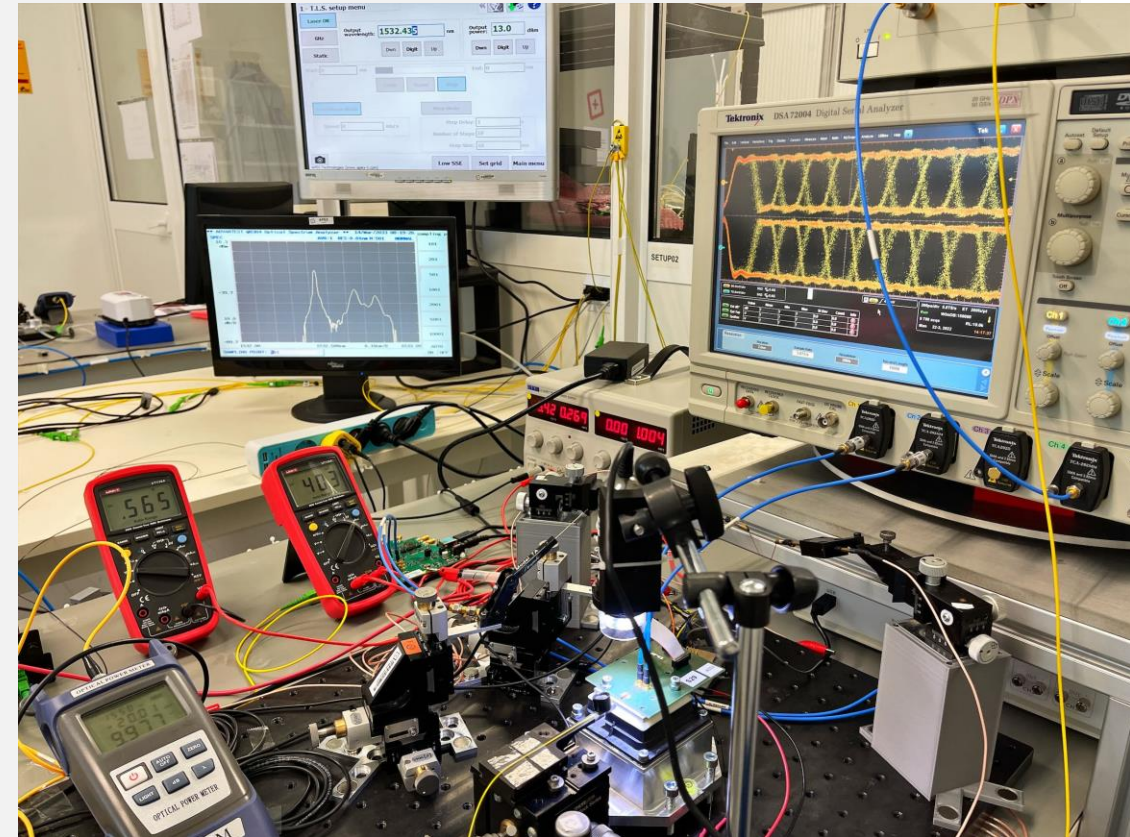
From bare die to system testing

On-chip testing DC and RF through probing or interposer

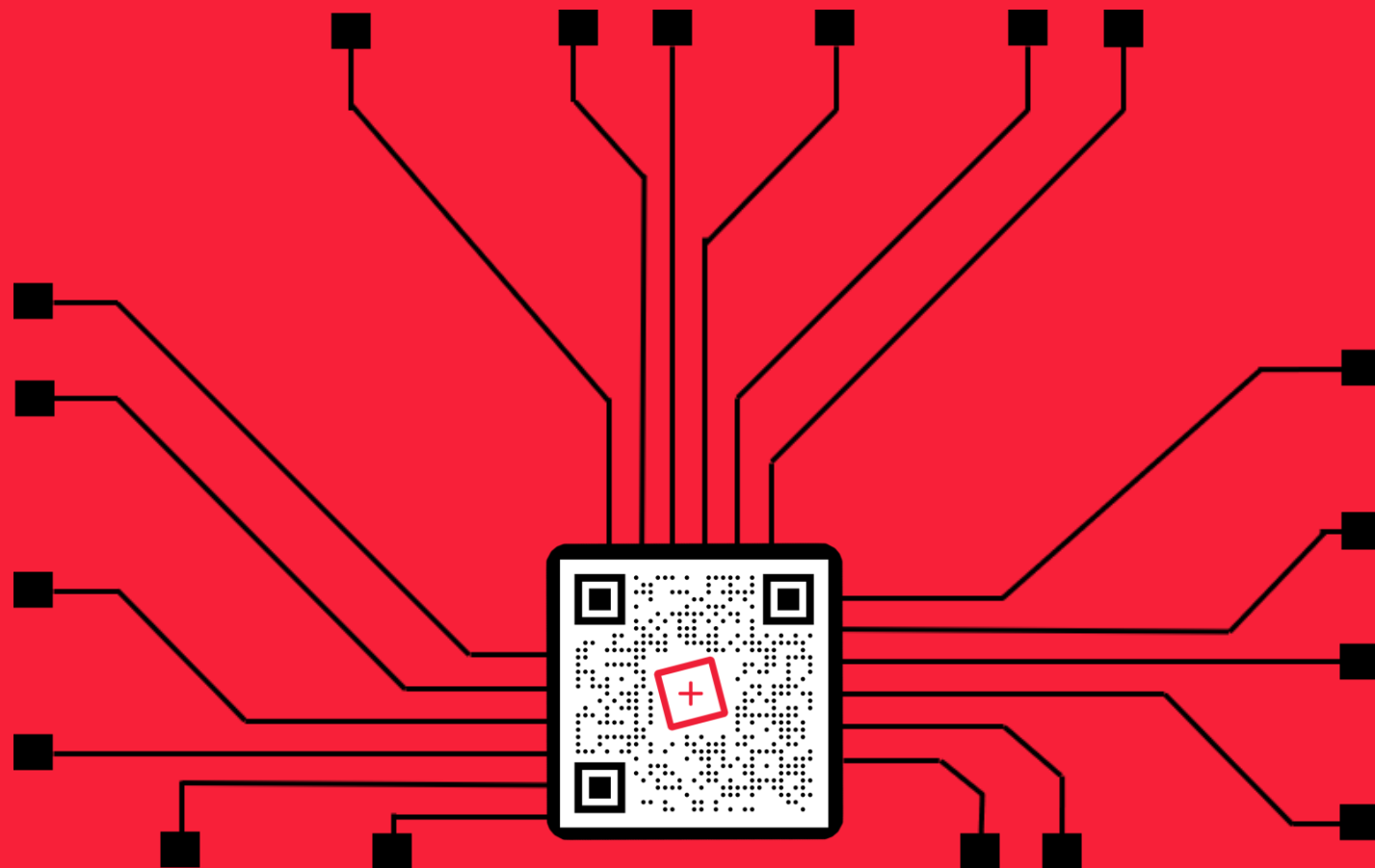
On-package testing

DC & RF characterization up to 70 GHz

Packaged and system testing up to 100Gbit/s



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Think outside the box with us!

Cofinanciado por:

