

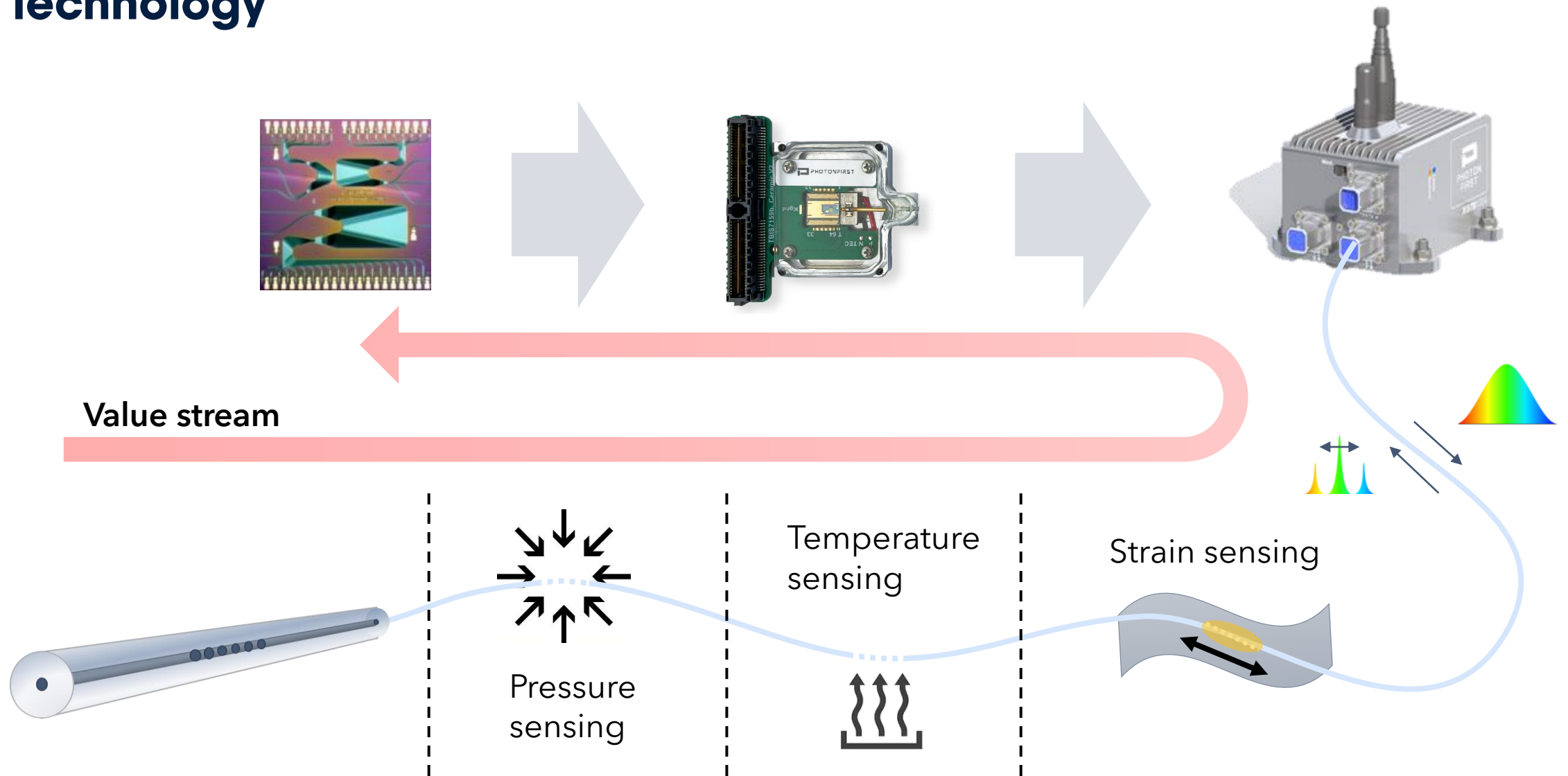
# JePPIX Pitch

## EPIC Pilot Lines & Photonics Innovation Hubs Breakfast

Thijs van Leest, Jan 31, 2023

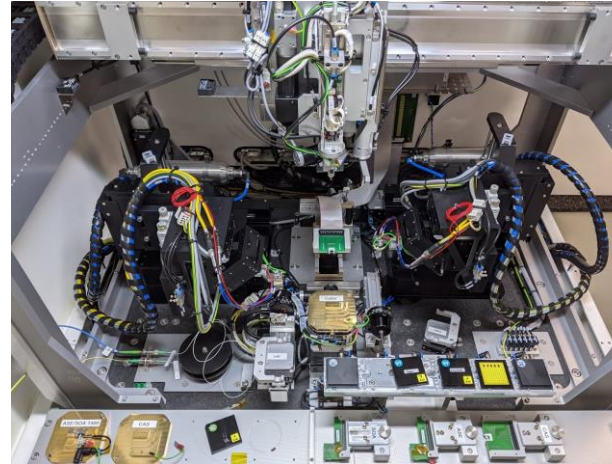


# PhotonFirst develops and produces sensing solutions, based on PIC technology

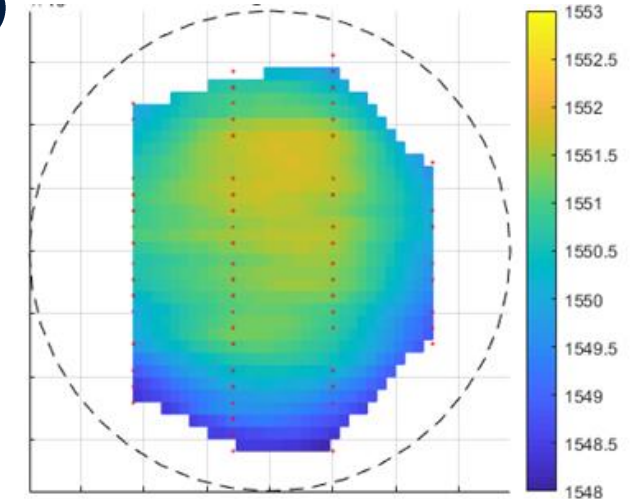


# Pilot line: Product(ion) optimization (TRL 7-9, MRL)

- “One functional PIC, does not mean having product yet!”
- Through Jeppix we advanced on → Design for manufacturability
- Valuable data from production and process for end-use, design, fab

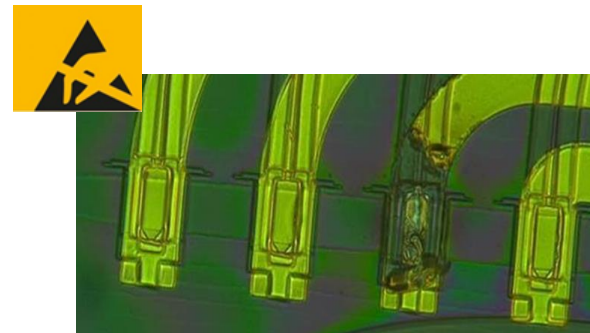


Automated Die-tester at PhotonFirst

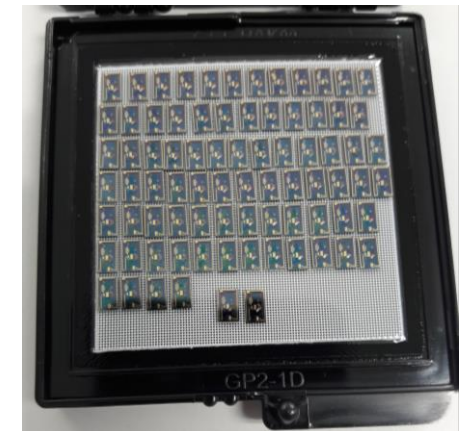


Map of measured central wavelength (KPI) distribution of a structure across wafer position.

- Fabrication tolerances, yield
- Production control, process KPIs
- Statistical analysis and optimization of all related production steps
- Validation on chip, package, system



ESD damage on PIC Photodiode



Production PIC batch in gel-pack



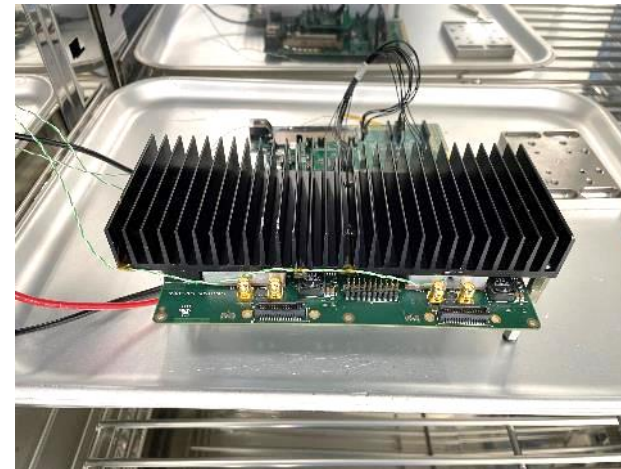
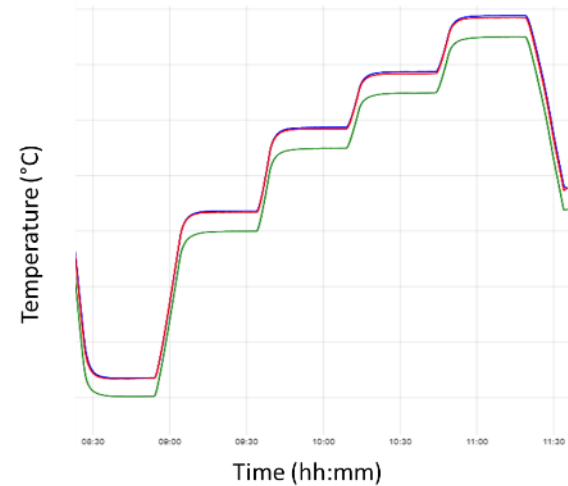
# Pilot line: Validation activities

## Design for manufacturing

- PIC design runs for assessing /optimizing producibility and yield

## Module level validation of PICs and packages

- Validation of env. Performance
- Accelerated Lifetime testing ( $T$  (K),  $I$  (A) )
- Production testing
  - Mechanical pull-test wire-bond validation
  - Burn-in / environmental stress screening



Light source control module / electronics

