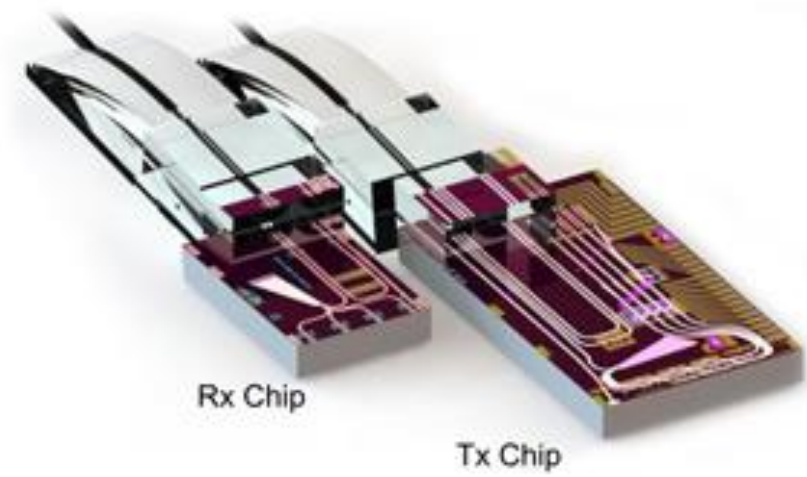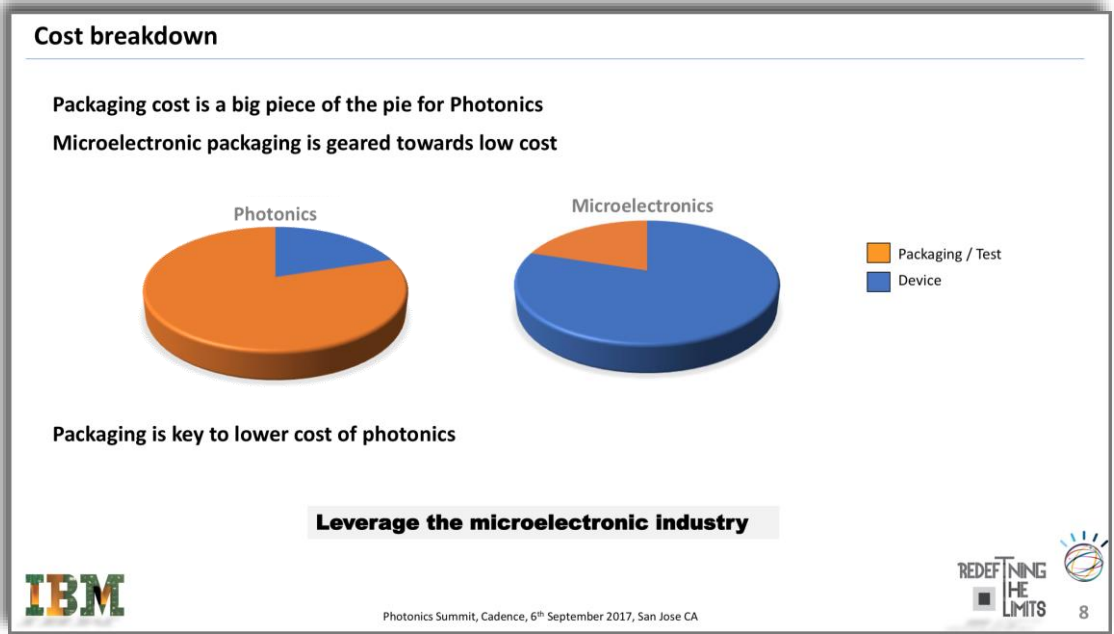# Photonics: Enabler of Post-Pandemic Progress
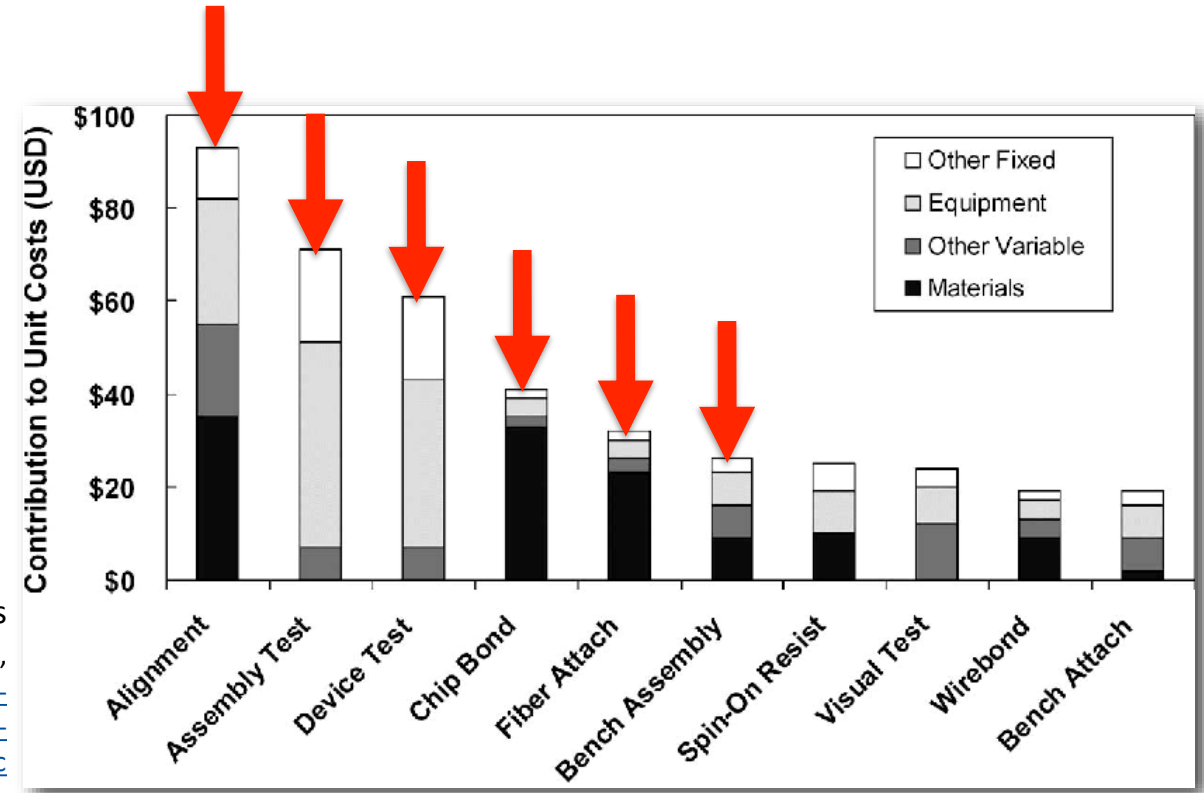
The Emergence of Intelligent Positioning in High-Throughput Photonics Manufacturing

Alignment: The Repetitive Cost

"Automated High-Throughput Assembly for Photonic Packaging", Barwicz et al, *Photonics Summit*, Cadence, 2017, https://www.cadence.com/content/dam/cadence-www/global/en_US/documents/company/Events/summits/photonics/forti er-2017.pdf

"Process-based cost modeling of photonics manufacture...", E. Fuchs et al, J. Lightwave Tech., 2006, https://www.semanticscholar.org/paper/Process-based-cost-modeling-of-photonics-the-cost-a-Fuchs-Bruce/125e24b2e2e71860f088526441ee5ce16e6ce42c
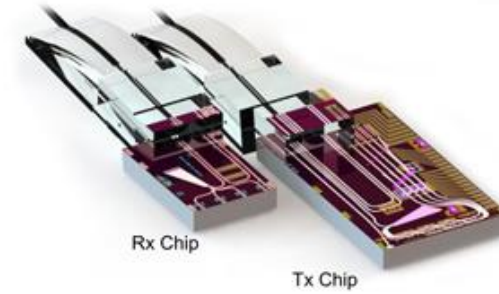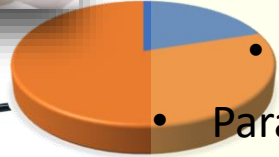
PI

PI's Contribution

- Fab-proven fast nano- and micro-positioners and 6-DOF hexapod microrobots
- Intelligent optimization algorithms
  - Built-in toolkit for fast development
- Parallel alignment processing
  - Multi channel
  - Multi element
  - Multi DOF
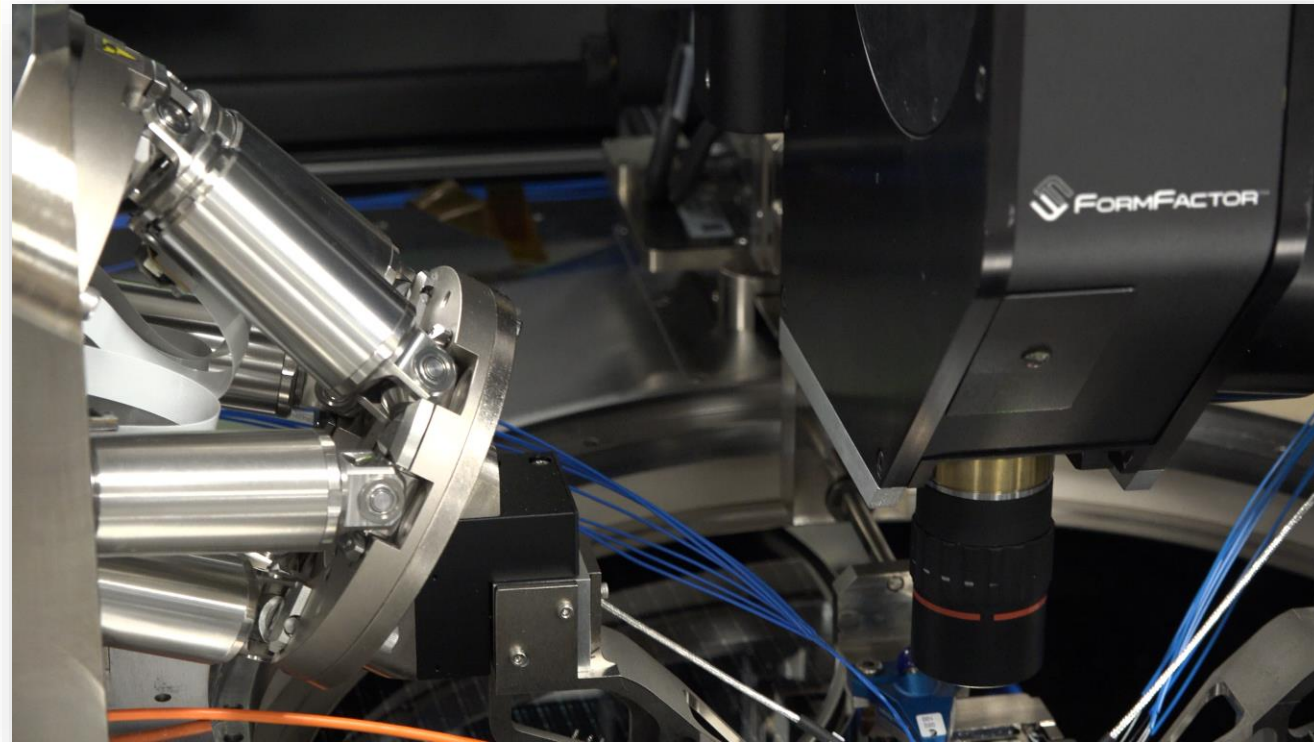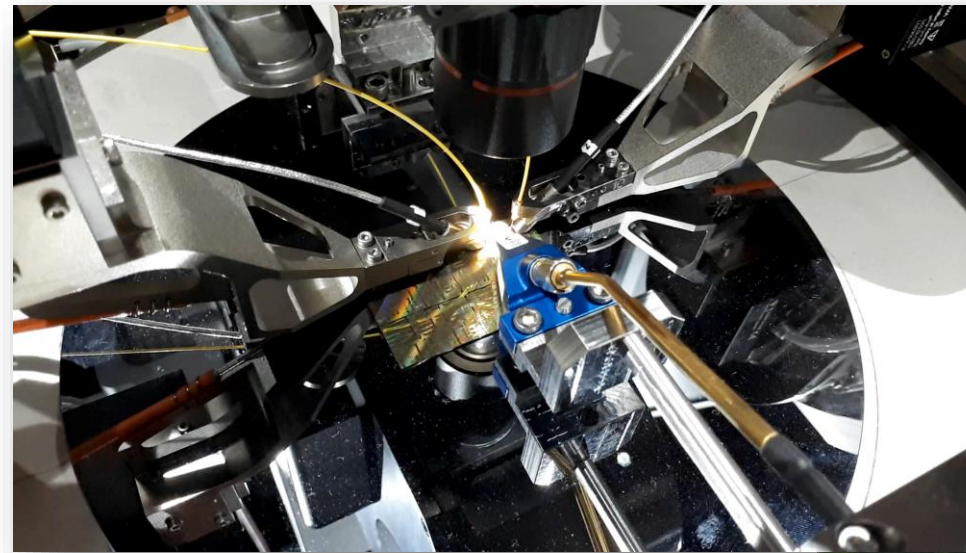
Typically 100-times throughput improvement

Rx Chip

Tx Chip
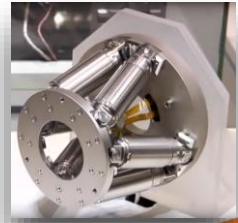
From wafer test to final packaging…

…Groundbreaking speeds for complex alignments

FORMFACTOR

Courtesy FormFactor, Inc.

Physik Instrumente

Keep in touch!   ScottJ@pi-usa.us

Physik Instrumente (PI) GmbH & Co. KG
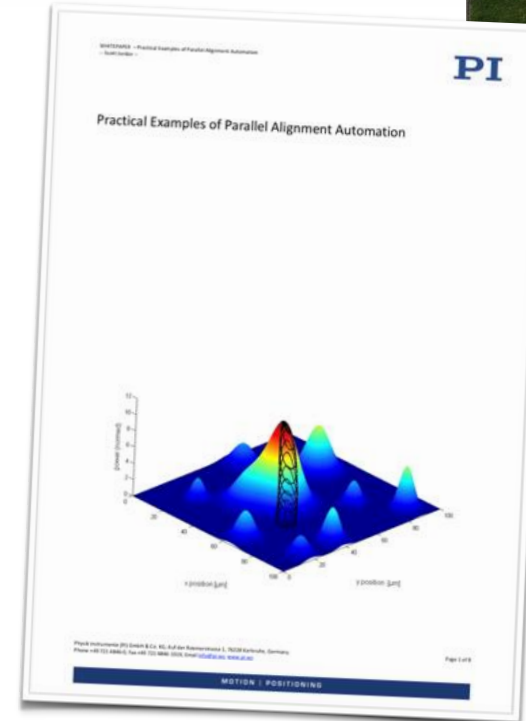Auf der Roemerstrasse 1
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Practical Examples of Parallel Alignment Automation

Ask for a free Tech Note on Parallelism in Optimization