

WE ARE HIRING

Senior Process Integration Engineer

San Jose, California, USA • Eindhoven, The Netherlands

Own the end-to-end process that turns photonic device physics into manufacturable performance at scale.

Photon Bridge is developing a fundamentally new external laser architecture for AI datacenters. Our technology addresses one of the largest manufacturing bottlenecks in silicon photonics by enabling scalable, passive assembly of multi-wavelength laser engines.

We are moving from breakthrough technology to industrial reality—and we are looking for a senior process integration leader who can turn a complex photonic process flow into a robust, transferable and scalable manufacturing platform.

Your mission

You will own the end-to-end semiconductor process integration for Photon Bridge's photonic technology and drive its transfer and industrialization with external foundries.

You must understand the process as a complete system: why each process step exists, how early process choices affect downstream steps, and how process variation ultimately translates into optical and electrical performance, yield and reliability.

This is a full-flow process-integration role—not a unit-process engineering role.

What success looks like

- A complete, well-understood process flow with clear links between process conditions, device structure and final performance
- Process windows and controls that anticipate downstream interactions rather than optimizing individual steps in isolation
- Successful transfer of Photon Bridge technology into external foundries with stable, repeatable manufacturing performance
- Fast root-cause resolution of yield and performance issues using data, device physics and full-flow process understanding

What you will own

End-to-end process integration

- Own and continuously improve the complete process integration flow for Photon Bridge's photonic technology
- Understand and document the purpose, physical mechanism and downstream impact of every major process step

- Connect process conditions to material and device structure, and ultimately to measured optical and electrical performance
- Identify interactions where an early process choice creates a limitation or failure several steps later
- Work closely with photonics design, test, reliability and packaging teams to translate device requirements into manufacturable process specifications

Foundry transfer and industrialization

- Lead process transfer and industrialization with external foundry partners
- Define process windows, specifications, control limits, PCMs and acceptance criteria
- Evaluate process changes for their impact on the complete downstream flow and final product performance
- Drive process-change control, qualification and manufacturing readiness
- Support second-source qualification and transfer between manufacturing partners where required
- Build trusted technical relationships with foundry process and integration teams

Yield, qualification and performance

- Root-cause wafer-level yield and device-performance issues across multiple process modules
- Use DOE, SPC, wafer maps, inline metrology and optical/electrical test data to identify systematic variation and yield limiters
- Define the right test structures and early measurements to detect process drift before final device test
- Drive process capability, repeatability and yield improvement toward volume production

Technical leadership

- Challenge assumptions with a strong understanding of semiconductor processing and device physics
- Make practical trade-offs between performance, process complexity, yield, cost and schedule
- Provide senior technical guidance while remaining hands-on in critical process and root-cause discussions
- Communicate clearly across internal engineering teams, foundries and manufacturing partners

What you bring

Essential experience

- 10–15+ years of relevant semiconductor or photonics process-integration experience in industry; industry experience is required
- Deep understanding of complete semiconductor process flows rather than expertise limited to one unit process
- Strong ability to connect process → material/device structure → device physics → measured performance
- Proven experience taking a semiconductor or photonic technology from development into manufacturing
- Direct experience working with foundries and driving process transfer, yield improvement or industrialization
- Strong working knowledge of DOE, SPC, process capability, qualification and root-cause analysis

Relevant backgrounds

We are particularly interested in candidates with experience in technologies where small process variations directly affect device performance, including:

- Silicon photonics and photonic integrated circuits
- III-V lasers and optoelectronic devices
- MEMS or other highly integrated semiconductor technologies
- Heterogeneous integration, wafer bonding or advanced semiconductor packaging
- High-volume semiconductor process integration and foundry manufacturing

You do not need to be the deepest specialist in every unit process. More important is the ability to understand how the complete flow behaves as a system and how the first process steps can ultimately determine the performance of the finished device.

How you work

- System-level thinker who naturally looks upstream when a downstream performance problem appears
- Hands-on and technically credible with both device designers and foundry process engineers
- Data-driven, structured and rigorous in root-cause analysis
- Comfortable making decisions with incomplete information while being explicit about risk
- Able to challenge strong specialists constructively and drive cross-functional resolution
- Low-ego, direct, collaborative, and focused on making the technology manufacturable at scale

Reporting line: This role reports directly to the COO

Why Photon Bridge?

- Solve a defining manufacturing challenge in silicon photonics for next-generation AI infrastructure
- Own a critical part of the transition from breakthrough photonic technology to industrial-scale manufacturing
- Work directly with leading foundries, packaging partners and the global photonics ecosystem
- Have visible technical impact on product performance, yield, reliability and manufacturing scale-up

How to apply

Please submit your resume and a cover letter outlining your relevant experience and interest to jobs@photonbridge.com

Photon Bridge is committed to diversity and encourages applications from all qualified candidates from all backgrounds to apply.

Photon Bridge only works with pre-qualified recruitment agencies.