

HYBRID INTEGRATION

Consistent, low-loss optical coupling

How Hybrid Integration can help you with nanoscale printing for optics and photonics

Your partner for consistent, low-loss optical coupling

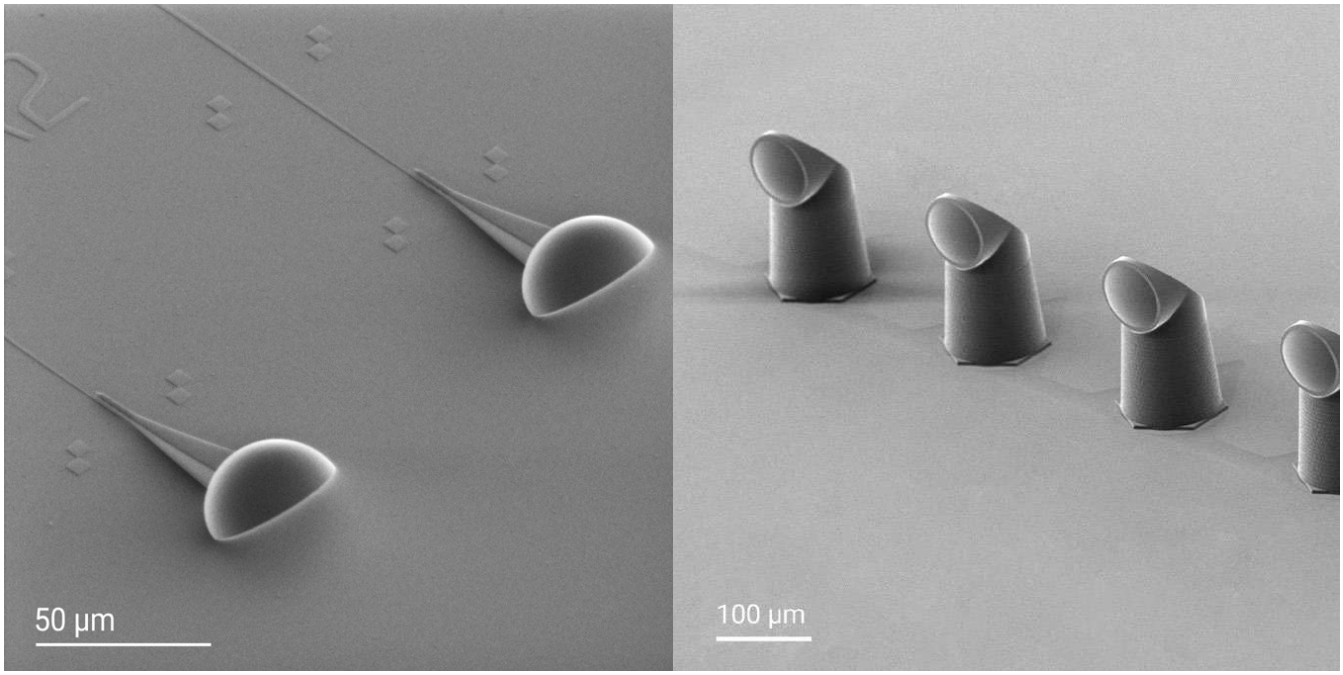
Printed directly onto fibres or PICs, or as standalone components, our solutions enable low-loss coupling, rapid iteration and geometries that are difficult or impossible to achieve through conventional manufacturing. This unlocks unprecedented design freedom, development speed and performance, even for visible wavelengths.

The photonics industry repeatedly hits challenges during packaging and system integration; there is an unmet need for low-loss optical coupling with higher yields, particularly for more demanding areas, such as in quantum and aerospace.

Hybrid Integration is answering this challenge by leveraging the power of two photon polymerisation 3D printing to design and fabricate custom optical and mechanical components, tailored to your exact application.

Highlights

- Low-loss custom optical interfaces
- PIC-to-fibre and PIC-to-PIC coupling
- In-situ and ex-situ manufacturing
- Custom freeform optics
- Visible to NIR (350–1600nm)
- Nanoscale resolution
- Very low surface roughness and high shape accuracy
- Rapid turnaround from design to fabrication



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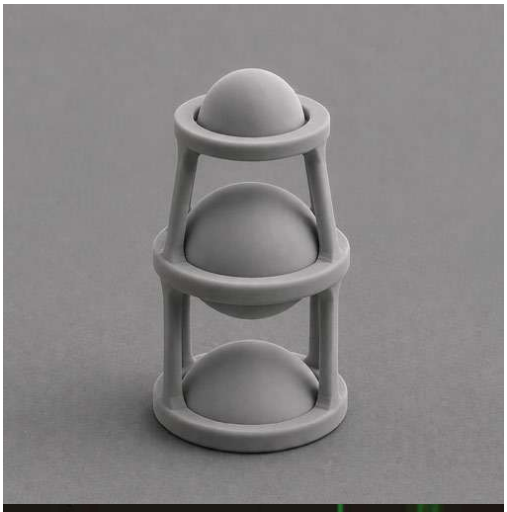

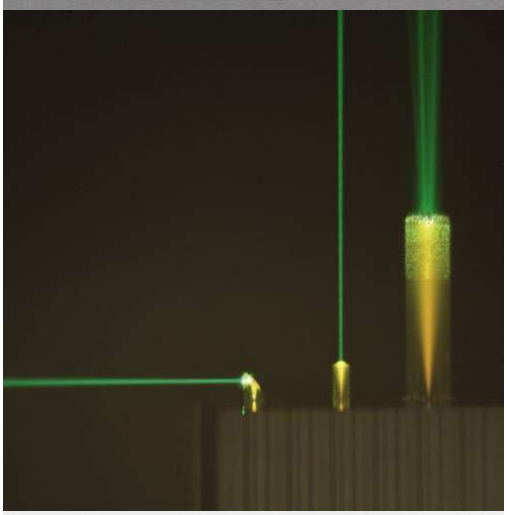

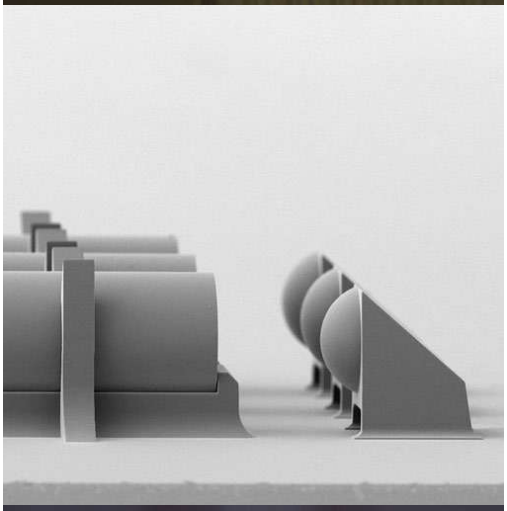

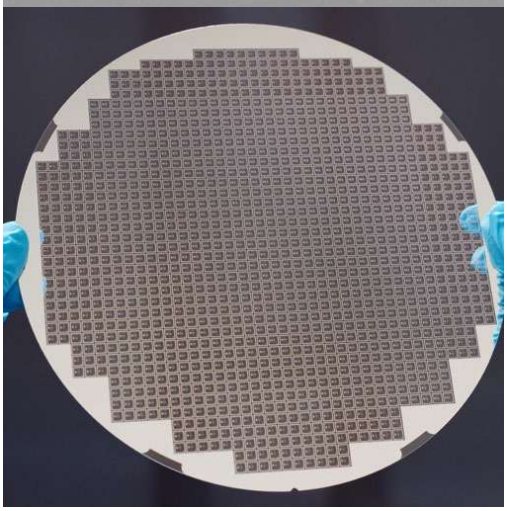

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High quality PIC-to-fibre & PIC-to-PIC interfaces

Applications

- Low-loss optical coupling
  - PIC-to-fibre interfaces
  - PIC-to-PIC interfaces
  - Dynamic coupling between elements
  - Compensation for coupling misalignments
- In-situ printed optics
  - Direct printing onto fibres and PICs
  - Custom freeform optical interfaces
  - Alignment-corrective optical structures
- Advanced micro-optics
  - Microlens arrays
  - Compound optical systems
  - Fresnel lenses
- Precision mechanical features
  - V-grooves
  - Ferrules
  - Keying structures

Whether you need full project delivery or targeted support, Hybrid Integration provides an end-to-end pipeline from concept to integrated solution.

We combine consultancy, optical design, fabrication and integration to develop solutions tailored to your application. From individual stages to the complete workflow, we'll help you develop a solution that delivers the performance you need.

We help you leverage the power of nanoscale printing for low-loss optical coupling.

Hi, how can we help?

We're your technical partner, helping you navigate microelectronic and photonic packaging challenges with confidence.

Why we exist

We founded Hybrid Integration after years of facing the same challenges in advanced packaging.

As customers, we saw how difficult it was to find solutions that met our technical and commercial needs – with slow turnaround, limited flexibility and communication challenges forcing us to compromise.

We set up Hybrid Integration to change this.

What sets us apart

- We shape the packaging approach for the project – not the other way around.
- We take the time to understand your needs and help you navigate trade-offs.
- We take ownership of your outcomes – surfacing risks early, communicating honestly and fixing problems fast.
- We keep things transparent, with regular updates and full traceability.
- We build verification into our process to ensure your product performs as intended.

Ready to get started?

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