

# Photopolymerisation Waveguide for optoelectronics

New post-packaging process for optimization of VCSEL - optical fiber coupling

## KEYWORDS

VCSEL  
Optic Fiber  
Photopolymerisation  
Alignment  
Coupling

## PATENT

Currently being filed

## INVENTORS

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## TECHNOLOGY

**NIR** Connect

- Creates a self-aligned waveguide with graded index
- Based on NIR and UV photo-polymerizations
- Tested on Fiber-Fiber coupling and VCSEL- Fiber coupling configurations
- Validated for Singlemode/Multimode coupling
- Output power increased by 8 times compared to VCSEL- MM fiber coupling in air and 4 times compared to VCSEL- MM fiber coupling in a simple polymer layer

## APPLICATIONS

- Optoelectronics Packaging:
  - Active Alignment with high tolerance
  - Coupling optimization
  - Crosstalk elimination

## INNOVATION ADVANTAGES

- More tolerant to XY misalignment & Z positioning
- Good mechanical resistance
- Transparent
- Quick process
- Enhanced coupling compared to optical gels

## DEVELOPMENT STATUS

- Currently looking for a co-conception partner to finalize the development of this product

