

Specialty optical fibers | R&D | Production

# Specialty optical fibers and preforms

**High quality glass for photonics and sensing applications**

Trajan Scientific and Medical works in collaboration with the Institute for Photonics and Advanced Sensing to provide specialty optical fibers and unique macroscopic structured fibers.

What we offer:

- Development and delivery of multi-structured preforms for fiber producers
- Production of specialty high performance optical and/or ultra high temperature resistant fibers
- Partner to develop novel fibers (structure and glass composition) of virtually any diameter
- Leading edge in-house technology, sophisticated equipment and know-how available for collaborative ventures

# Specialty optical fibers and preforms

Fiber type	Glass types
Mid IR fibers	ZBLAN, tellurite, germanate, indium fluoride, silica
Single mode fibers	Doped silica, silica and standard glasses
Laser beam fibers	Doped silica, silica and standard glasses
Laser amplifier fibers	Doped silica, rare earth doped soft glass, nano-particle doped soft glass (luminescent glass)
Sensor fibers	Silica - suspended core, silica - exposed core, nano-particle doped soft glass (luminescent glass), silica and standard glasses
Polarized light fibers	Doped silica, silica and standard glasses
High optical non-linearity fibers	Tellurite, germanate, soft glass, silica - suspended core, silica - exposed core, silica and standard glasses
Radiation sensing fibers	Soft glass, doped silica, silica and standard glasses
Photosensitive fibers	Doped silica
Doped fibers	ZBLAN, tellurite, germanate, indium fluoride, soft glasses

## Macrostructure preform generation

Trajan leverages the Institute for Photonics and Advanced Sensing's proprietary extrusion technology to create unique macrostructure designs.

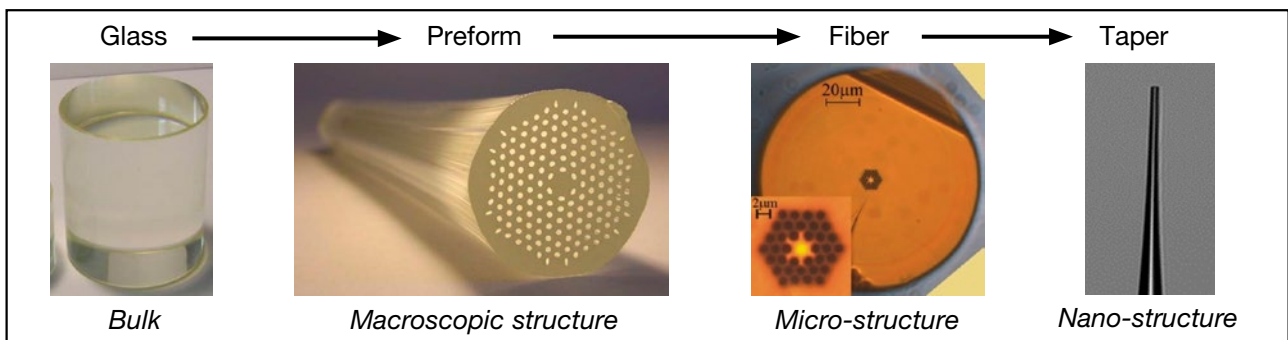
- Bulk glass is extruded through a die to create an almost unlimited range of structures
- Single step process and all holes are formed simultaneously
- High tolerances and excellent reproducibility
- Can be used for many glass types and polymers

### Glass retains geometries through standard drawing process

- Structure retention
- Highly reproducible and ability to control dimensions
- Used for many glass types and variety of structures

### Demonstrated success with fibers of various compositions

- Commercial glasses e.g. borosilicate and silica
- Custom glasses e.g. soft and hard glasses, fluoride glasses
- Polymers



## Trajan Scientific and Medical

### Science that benefits people

Trajan Scientific and Medical's focus is on developing and commercializing technologies that enable analytical systems to be more selective, sensitive and specific for biological, environmental or food related measurements, especially those that lead to portability, miniaturization and affordability.

Building on complementary and technically strong foundations in core glass fabrication capabilities, Trajan has partnered with the Institute for Photonics and Advanced Sensing to be a globally recognized leader in the development and manufacture of high-quality, high-value critical glass components and sensors.