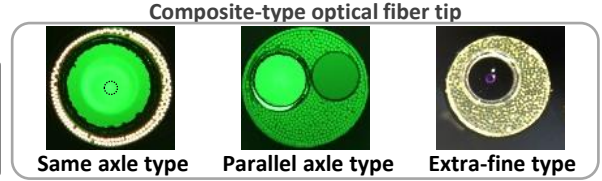


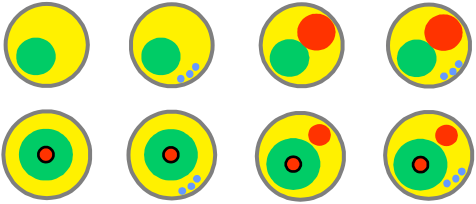
**OK Fiber Technology Co., Ltd.** is a venture company born from the National Institutes for Quantum and Radiological Science and Technology. Based on the accumulated composite-type optical fiber technology in the National Institutes for Quantum and Radiological Science and Technology, we will research and develop medical and industrial applications, and provide new value to the worldwide.

## Composite-type optical fiber

Composite-type optical fiber can send laser beam and optical image at the same time. By uniting different type of optical fibers in coaxial, gap-less optical axis and miniaturization can be achieved.



### Types of composite optical fiber

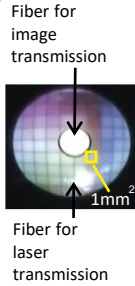


#### Cross-Section

Combines optical fibers for image transmission and laser into a single coaxial line

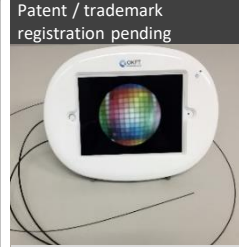
- Fiber for cauterization laser
- Fiber for PDT laser
- Fiber bundle for blood flow measurement
- Fiber bundle for lighting
- Fiber bundle for viewing

### Example of an actual Image



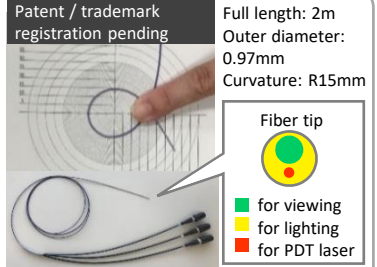
Same axle type

### Portable endoscope



Portable system with battery-operated light source

### Flexible fiberscope



Flexible fiberscope with laser transmission

Full length: 2m  
Outer diameter: 0.97mm  
Curvature: R15mm

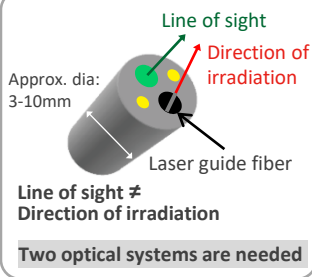
#### Fiber tip

- for viewing
- for lighting
- for PDT laser

## Medical Application

We are developing innovative laser therapy equipment. By observing simultaneously, accurate and minimally invasive treatment can be achieved.

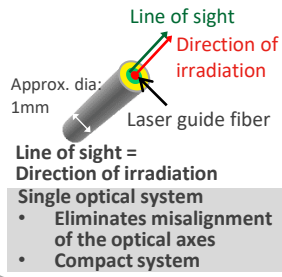
### Typical Endoscope Tip



Line of sight ≠ Direction of irradiation

Two optical systems are needed

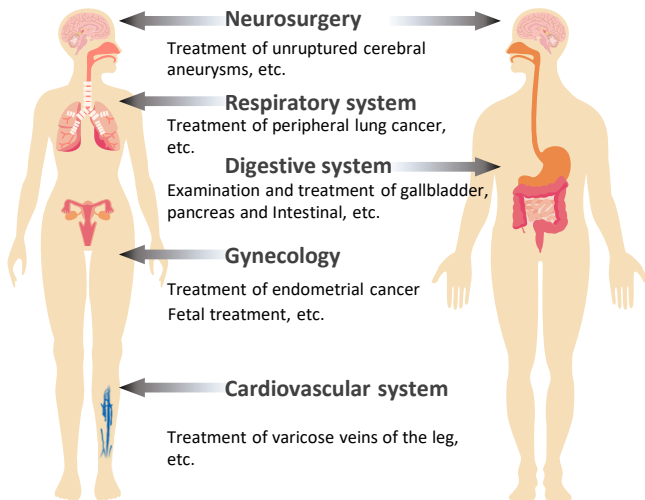
### Composite Optical fiber Tip



Line of sight = Direction of irradiation

- Single optical system
- Eliminates misalignment of the optical axes
- Compact system

Composite optical fiberscopes are anticipated to have various applications in the medical field.



**Neurosurgery**  
Treatment of unruptured cerebral aneurysms, etc.

**Respiratory system**  
Treatment of peripheral lung cancer, etc.

**Digestive system**  
Examination and treatment of gallbladder, pancreas and Intestinal, etc.

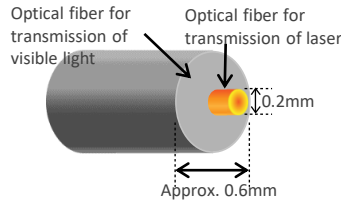
**Gynecology**  
Treatment of endometrial cancer  
Fetal treatment, etc.

**Cardiovascular system**  
Treatment of varicose veins of the leg, etc.

## Industrial Application

By combining the optical fibers for image transmission and laser into a single coaxial composite fiber, welding in a confined space with poor view of the weld joint becomes an easy task.

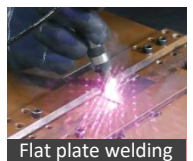
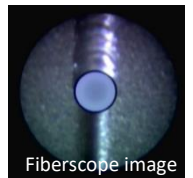
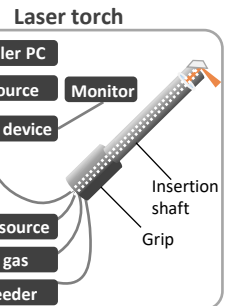
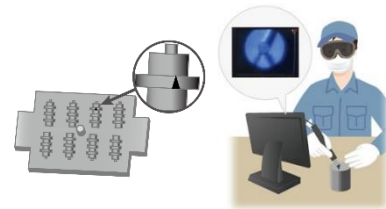
### Composite optical fiber for industrial applications



Inspection and repair of pipes in nuclear plants, thermal plants, and chemical plants, as well as plumbing in buildings and condominiums

#### [Application examples]

**Handheld laser welding torch for confined spaces**  
Repair of areas which are difficult to see with the naked eye, such as dies and molds for complex shapes



### Contact Info.

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