The Business Unit Fiber Optics is a leading manufacturer of optical fibers and components for optical metrology and sensors. Our technical competence and know-how enables us to offer a unique product portfolio and broad customized product solutions for various applications.

Our product range – from preform to fiber optical systems

- Extensive know how in fiber production
- Customized fiber types and coatings
- Step and graded index fibers, single- and multimode fibers
- High technical standard of production technology and testing equipment
- Customized fiber assemblies
- Excellent for use in various environmental conditions
- Worldwide production facilities – close to your markets and customers
for intrinsic and extrinsic sensors

Your systems partner for development and consulting

In-house preform and fiber production

In-house assembling of optical components

Testing and quality control
Get to know our product families:

FiberTech®
Special Optical Fiber Technologies
- Customized special optical fibers and assemblies
- From deep UV/UV-VIS to NIR up to MIR
- Capillaries, tapered and Non Circular Shaped Fibers (NCS)
- Various numerical apertures, coatings and claddings
- Various fiber probes and arrays
- Multi-branched fiber bundles
- Intrinsic & extrinsic sensoric assemblies
- Fiber Bragg Gratings (FBG)

FiberConnect®
Light Guide Fiber and Cable Solutions
- Extensive portfolio of cable designs and assembly types
- Various optical fibers according to industrial standards
- Quartz, Polymer Optical Fibers (POF), Polymer Cladded Fibers (PCF) and Glass Optical Fibers (GOF)
- Sensor cables
- Hybrid cables in different designs

FiberSwitch®
Light Switching for Optical Systems
- Singlemode and multimode applications
- Low insertion and polarization losses
- Excellent repeatability
- Short switching times ≤ 2 ms
- Wide to ultrawide spectral range
- Various interfaces, e.g. RS232, TTL, I2C, Ethernet, USB, etc.
- Polarization maintaining (PM) version and VIS-PM version available
- Low Etalon-Effect for spectroscopy available

FiberSplit®
Light Distribution for Optical Systems
- Singlemode and multimode applications
- Wide range: 450 – 2000 nm
- NIR, Broadband and Ultra Broadband, Polarization-Maintaining (PM)
- Very low insertion losses and PDL
- High uniformity and extinction rate
- With splitting rates of 1x12 to 1x64
  - cascaded splitters
  - including asymmetric optical power split
Intrinsic and Extrinsic Sensors

**Atomic- and molecular spectroscopy**
- Analysis of optical properties and compositions of solids, liquids and gases
  - Quality Control, Food Industry, Recycling Industry, Pharmaceutical, Petrochemical and Chemical Industry, Medical, Aerospace, Astrophysics

**Sensor Technology**
- Measurements of physical, dynamic and geometric quantities, e.g. temperature, strain, pressure, vibration, distance, etc.
  - Energy Sector, Security, Construction Supervision, Geodesy, Military, Diagnostics

- **Process Analytics**
- **Monitoring & Control**
- **Surface & Material Analysis**
- **Life Science & Diagnostics**
- **Environmental Analysis**
Fiber arrays
Fiber bundles – cross-section converters
Customized process probes
Intrinsic and extrinsic sensor cables
DTS + DAS (Distributed Temperature/Acoustic Sensing)
Vacuum feed-through assemblies

Transmission  Transflection  Reflection

Arrangement of the fibers in these individual connectors can differ

Me-Silicone-SS-DN5
No. of shrink-fit tube
Splitter
SMA knurl

Transmission Transflection Reflection Emission Absorbtion
Light transportation Light distribution Light switching
Singlemode switch, eol 1x12 standard housing (large version)

Multimode switch mol 1x1248 with 100µm fiber and MPO connectors

Planar waveguide

Singlemode and multimode fibers
Various designs and coatings

FBG with high tensile strength and reflectivity

A basic sketch of an optical multimode switch 1x4

Retroreflecting prism

Lens array

Fiber array

A basic sketch for a fiber optical switch 1x16

Hub 1

Hub 2

Energy

Coating
Core

Transmission
Transflection
Reflection
Emission
Absorption

Light transportation
Light distribution
Light switching
Find out more:

Business Unit Fiber Optics
www.leoni-fiber-optics.com