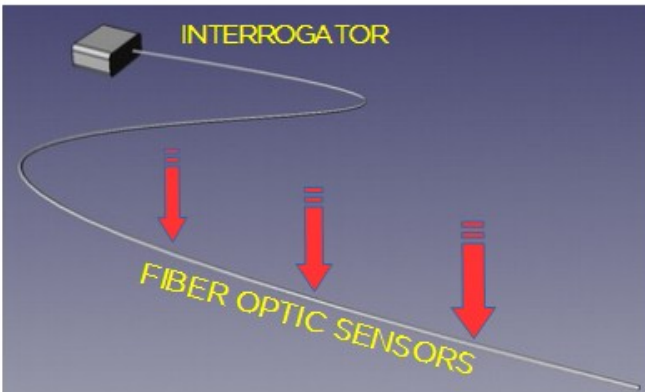


INNOVATIVE FIBER OPTIC SENSORS SYSTEM

Optical Sensing Technologies srl (OST) offers custom solutions leading innovation based on **photonic technologies**, matching the cost/performance requirements of each application.



BENEFITS

- Multi point measurements on a single fiber optic
- Multi parameter measurements:
 - ▶ Temperature
 - ▶ Strain
 - ▶ Pressure
- Immunity to EMI
- Shock and Vibrations resistant
- Compliant with AtEx requirements

FEATURES

- Interrogation device perfectly fitted on application requirements
- Industrial Grade Solutions
- Completely Dielectric Sensors (no electric power in field)
- Wireless Communication Available

TECHNOLOGIES

- Fiber Optic Sensors
- Integrated Photonics
- Wireless Communication



Ready for INDUSTRY 4.0

Fiber Optic based innovative monitoring systems are targeted to the Industry of tomorrow, with more and more demanding requirements of High Efficiency, Process Control, Quality Control, Energy Saving, Wireless Connectivity.

Fiber Optic Sensors, with their Long Lifetime, High Sensitivity, Low Invasiveness, are the best candidates for **predictive diagnostics**, automation and new functionalities that will help the user to stay a step ahead of competitors.

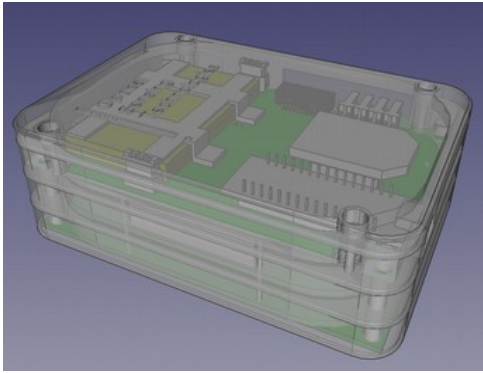
OST is the perfect partner to develop Industrial Grade measurement solutions based on Fiber Optic Sensors and Photonic Technologies.

Fiber optic sensors systems offer a wide range of possible performance improvement of next generation industrial equipment.

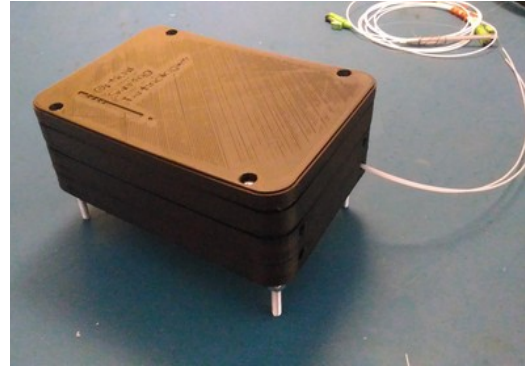
Fiber optic sensors can be embedded into polymeric and composite materials to produce "sensorized smart structures", that can have great impact on the layout and efficiency of a machine or a plant.

The "function" of every sensor on a single line can be software defined: measurement of different parameters such as temperature, pressure, strain, etc.. are made with exactly the same type of sensors, so that the interrogation system can read all the parameters at once and provide with point by point temperature-compensated measurements

CUSTOM FBG INTERROGATION SYSTEMS



Concept-Level design



OEM solution produced

General Specifications

Interrogation Equipment

Power Supply	5 V – 12 V DC; other options available
Power consumption	1.5 W typical, for high frequency systems
Number of sensors	1 to 30 per fiber
Acquisition Frequency	up to 500 kHz (single sensor)
Sensitivity (depending on application, implementation and system architecture)	<ul style="list-style-type: none"> • Temperature: up to 0,01°C • Strain: better than 0,1 $\mu\epsilon$ • Elongation: up to few nm • Pressure: up to few Pa
Output	Analog or Digital
Communication Interface	Serial USB, Wireless Zigbee (other options upon request)
Size and Weight (depending on application, implementation and system architecture)	Typical: 13x8x4 cm, 350 g

Sensors

Fiber type	Single mode
Operating Temperature	Cryogenic to over 200°C (extended range upon request)
Material of coating or casing	<ul style="list-style-type: none"> • Carbon or glass fiber reinforced polymer • Special elastomer (custom selection) • Metal
Shape and Size	<ul style="list-style-type: none"> • Cable: typical < 2 mm section, up to 20 km long • Tape: typical 0.1 to 1 mm thick, 2 to 20 mm wide, up to 30 m long • Single sensor: fully custom

All the parameters here listed can be discussed and adapted on the base of the application requirements.