



## ***MULTITEL***

### ***Fiber Optics Sensors & Metrology***



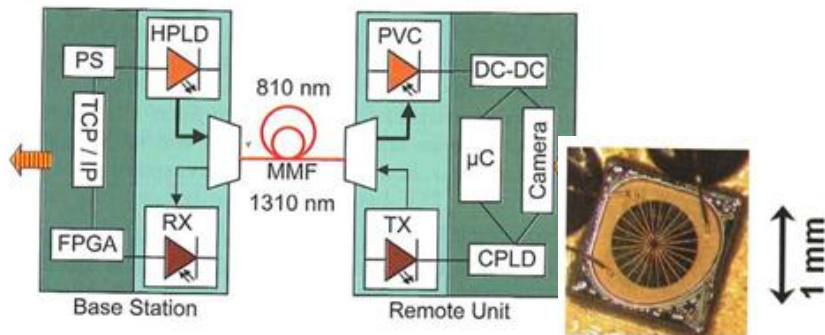
← Technology offered

← Collaborations



## Optical fiber sensors

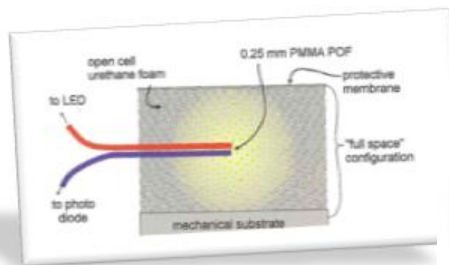
Optical fiber sensors are now used for a lot of applications in many domains such as aeronautic, automotive, health and wellness, sport, telecommunications ...



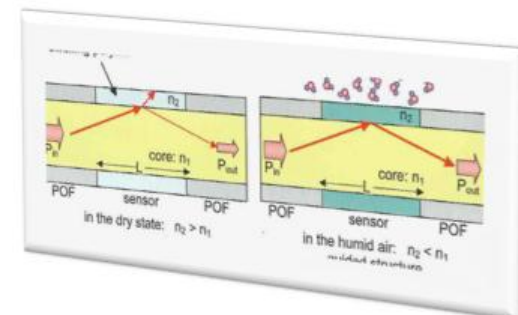
*Remote powered sensor*



*Distance sensor, crack detection*



*Deformation & pressure sensor*



*Humidity, chemical sensor*



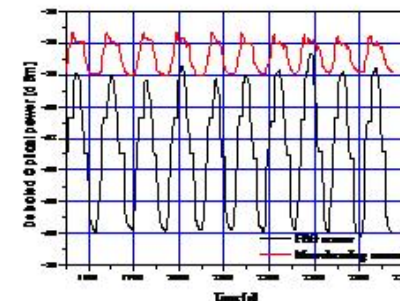
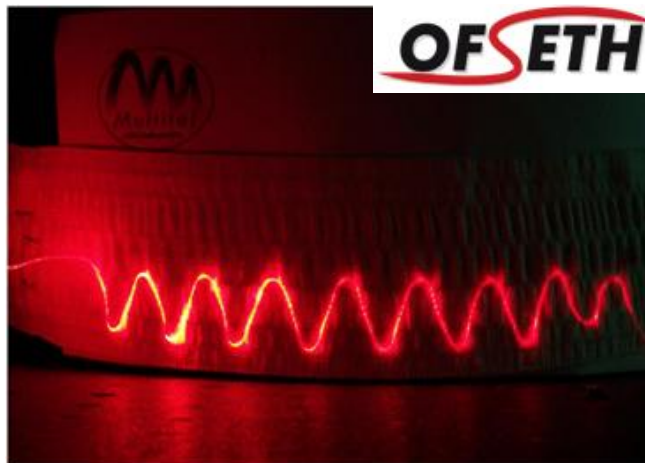
- Generally speaking, optical sensors can perform these multiple functions in a wide range of applications to improve the quality and speed of industrial processes, for quality control, medical diagnosis or for preventing and monitoring potential anomalies.
- In this way, Multitel develops customized solutions ranging from the optical sensors based on optical fibre properties or on Fiber Bragg Grating (FBG) to the combined monitoring devices for located or distributed measurements according to the application.
- Due to its fibrous nature, optical fibre is one candidate for all embedded monitoring system when integration in composite, polymers, foam or textile materials is required.
- Consequently, due to the know-how of Multitel, various transduction mechanisms can be implemented, including e.g. Fiber Bragg Grating. For this technology, Multitel has facilities of design, development, and fabrication using phase-mask method of FBG production for research concerns. For increasing the robustness of such a sensor and also for flexibility and cost robustness, Multitel has planned the investigation of new fabrication methods, namely based on point-by-point inscription by femto-second laser.

# innovation for SME



transnational funding opportunities for European SME

- ⑩ Optical fibre sensors for health structural monitoring (in composite materials)
- ⑩ Composite laminates
- ⑩ Rigid foams
- ⑩ Injection moulding
- ⑩ ...
  
- ⑩ Integration of optical sensors in fabrics
- ⑩ Respiratory sensors
- ⑩ SpO2 monitoring
- ⑩ ...





## Some ideas or needs :

- Microelectronics: fast integrated FBG interrogator
- Chemistry and/or materials: piezo-electric coating on FBG sensors for voltage to mechanics conversion



## Applied Photonics

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