



PHOTONFIRST

Integrated Photonics Sensing

**Create intelligent infrastructure for
a safe and sustainable future**

Generate real-time and accurate data with
integrated photonics sensing systems.



Infrastructure is ageing Traffic is increasing

In a world where traffic and the demand of our assets is increasing, ageing infrastructure is a topic with growing awareness. It impacts our communities, commerce and governments. Real-time monitoring of accurate and reliable data is becoming critical to ensure the right decisions are made in time, to optimize utilization and lifetime while continuing safe operations.

3 reasons to choose for fiber sensing technology from PhotonFirst

1. Proven technology to create a network of sensors measuring the performance of the asset cost-effective, accurate and real-time.
2. Generate reliable data to take decisions instantly, to optimize overall performance and continue safe operations.
3. Based on the modular architecture of the system, we develop in close collaboration with our customers the winning solution to scale.

Our solution

Over the last years, fiber sensing has been developed to become the solution for real-time and accurate monitoring and measuring in many advanced applications. The basic principle is: light is sent through a fiber optic cable which is integrated in or attached to the surface of the asset. Changes in the behavior of the fiber causes a shift in wavelength of the reflected light, which can be measured, and translated into different applications.



Strain



Temperature



Pressure



Shape



Vibration



Acceleration



Measuring road temperature and humidity levels

Monitoring of mechanical displacement

Identification of traffic type, defects, direction and volume

Localization of crack initiations

Measuring load and capacity

Road and rail track condition monitoring

Health monitoring in large buildings Taipei 101

Large civil structures have become increasingly vulnerable to natural hazards. Global climate change presents many challenges to our engineering community, such as stronger hurricanes and faster material deterioration.

In Taipei City, Taiwan, where earthquakes and strong typhoons are common occurrences, is the Taipei 101 Tower located. With the installation of fiber sensors, structural deformation as an effect of natural phenomena can be monitored. Recent earthquakes were successfully monitored using the PhotonFirst SGTR sensing platform.

PhotonFirst is the leading expert in integrated photonics sensing.

Since 2006, PhotonFirst is unlocking the power of the photon to measure temperature, strain, pressure and shape.

It is our ambition to become the global innovation leader in integrated photonics sensing and OEM's partner of choice for advanced applications. We support our customers to develop new or improved (better, faster, cheaper, more efficient) photonics sensing solutions and have everything needed in-house to industrialize, produce, scale, certify, supply and service these subsequently. Our front-row position in validation of new technology is ensured through an ambitious research and innovation agenda and partnerships with leading institutes. We measure the world.

Team up!

We are here to team up with leaders in their respective industries to develop measuring solutions that are fit for the future.

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