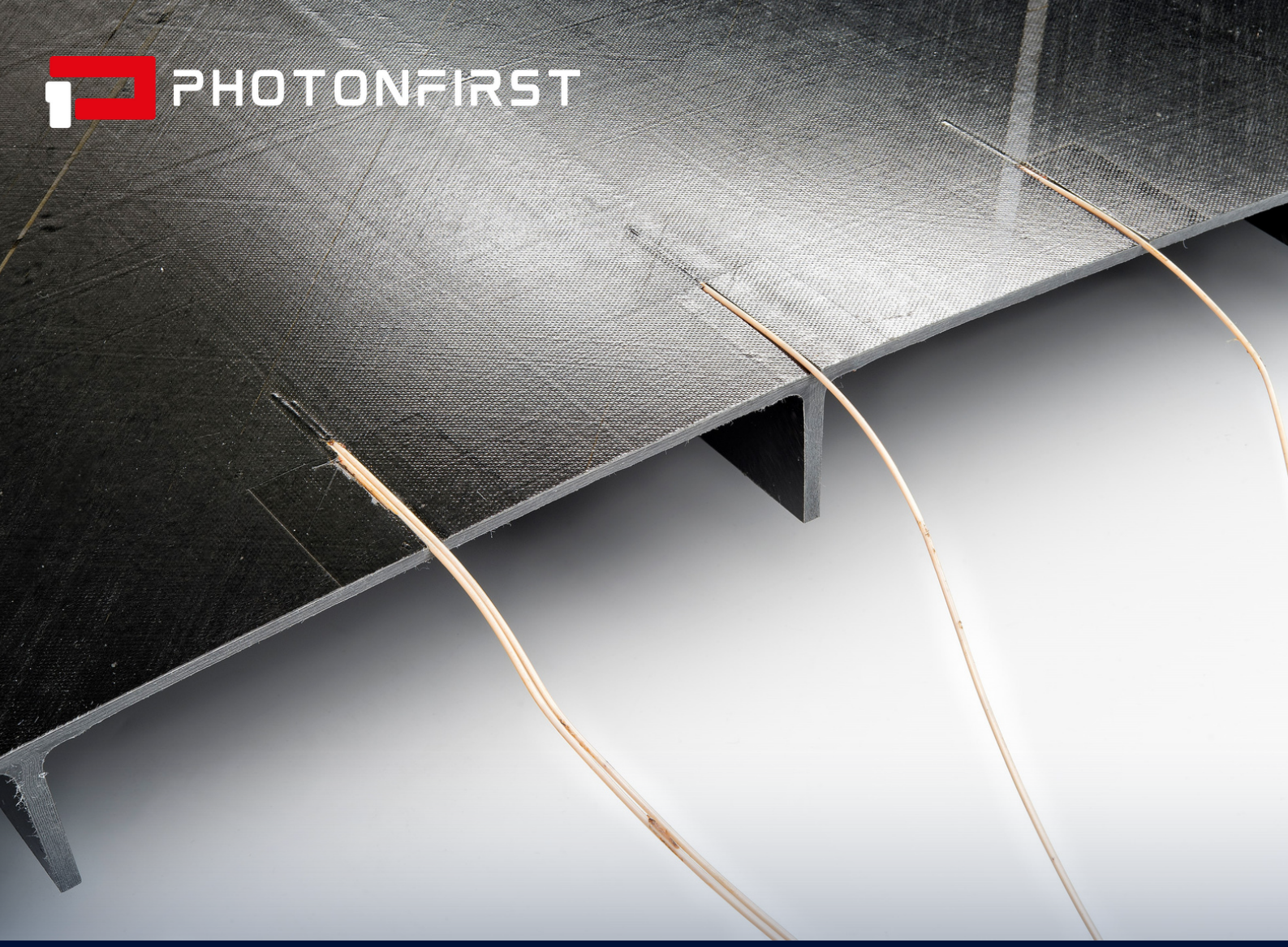
PHOTONFIRST



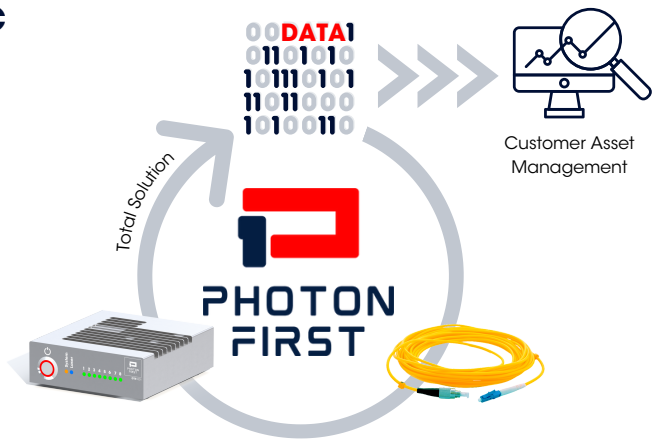
Looking for Advanced Composite Monitoring Technology?

Bring your asset to life with Fiber Optic Sensing.

Traditional monitoring technologies often fall short when it comes to advanced composite materials, especially in challenging conditions. Whether you're dealing with limitations in size, harsh environments, electromagnetic compatibility (EMC) concerns, or the need for lightweight solutions, conventional methods might not meet your needs.

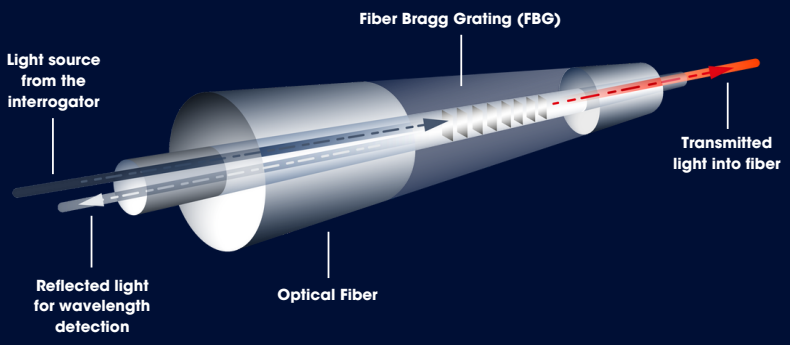
Introducing the Solution: Fiber Optic Sensing (FOS)

At PhotonFirst we develop Fiber Optic Sensing Solutions for complex measurement challenges. Our experience originates from 18 years working with this technology, shaping solutions for multiple applications. We provide a service that includes the development of technical concepts and prototypes, all the way through to the delivery of industrialized solutions.



The Optical Fiber Becomes The Sensor With FBG-based Technology

PhotonFirst interrogators send light into a fiber and capture it with sensors that reflect the light like a mirror. The light subsequently comes back and the change between the light sent out and the reflected light is translated into a value of measurement, such as temperature, strain, pressure or shape. This is done with the help of the photonics integrated chip (PIC).



Key Advantages of FBG Technology For Composites

Real-time 3D Monitoring
Enables actual shape reconstruction for precise monitoring.

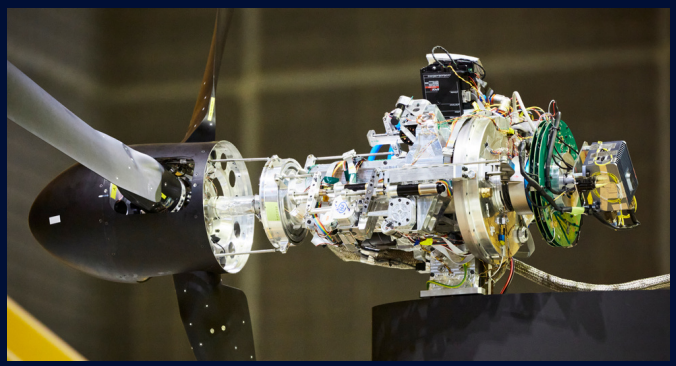
High-Temperature Tolerance & EMI Immune
Suitable for high temperatures exceeding 1000 degC, and immune to electromagnetic interference.

Lightweight & Simplified Design
With the fiber acting as the sensor, our solution reduces the need for additional components, and integrates multiple sensors into a single fiber.

Embedded
Our technology can be seamlessly integrated into the structure, ensuring minimal impact on size while maximizing functionality.

Applications Across Industries

- Aerospace; structural health monitoring of helicopter blades and LH2 tanks
- Motorsports; monitoring of high performance car components such as rear and front wings
- Renewable Energy; structural health monitoring of tidal turbine blade, shape sensing of wind turbine blade
- Defense; structural health monitoring of military drones and helicopters



ATTILA Project: This project has received funding from the Clean Sky 2 Joint Undertaking (JU) under grant agreement No 863418. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Clean Sky 2 JU members other than the Union.

Get In Touch

Interested in learning more or ready to take your project to the next level? Contact us and let's innovate together.

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