

Introduction to EOSS



Prysmian EOSS business unit focuses on supplying comprehensive and fully integrated Online Monitoring Systems (one stop shop platform). Different modules can be integrated or supplied and activated separately, namely:

- Online partial discharge (PD) module,
- Distributed temperature sensing (DTS) with RTTR module,
- Distributed acoustic sensing (DAS) module,
- Screen currents monitoring module.

Our Services:

1. Online Partial Discharge Measurement (available also for offline during HV test)
2. Partial Discharge Temporary Continuous Monitoring
3. Partial Discharge Permanent Continuous Monitoring
4. Online Temperature measuring for the Underground Cables to evaluate healthiness.

The service will include:

- Results reporting
- Evaluation and recommendations
- Training

PRY-CAM, DAS AND DTS

A SOLUTION THAT PREVENTS PREMATURE FAILURES IN ASSETS AND REDUCES HIGH REPLACEMENT/REPAIR COSTS

Problem: Partial Discharges are low energetic phenomenon, but large enough to:

- break polymeric chains
- form acids

The effects are:

- Erosion of dielectric material
- Erosion of mechanical fittings
- Failure



Erosion of insulator coating and metal fitting in polymeric insulators due to corona and surface discharges (tracking)

Burning/erosion in HV/MV accessories



Erosion (tracking) in synchronous generator

SPOT MONITORING: PRY-CAM PORTABLE

Maximum safety for operators

Very high sampling rate and advanced filtering capabilities

PD measurement outcome with pattern, waveform (Time Domain Analysis) and frequency spectrum (Frequency Domain Analysis)



Patented Ultra Wide Band (UWB) capacitive probe sensor

Enhanced noise rejection

High sensitivity and directivity

Why PRY-CAM PORTABLE is good for your business

100% successful diagnosis on HV and MV

80% measurement time saved against traditional technologies

Up to 5x higher sensitivity on small defects

One device for all types of equipment and all voltage classes

Cost saving generated by online (system in operation) measurement

Easy to use – training available

Reliable remote diagnosis by PD experts on demand

Applications

Suitable for any electrical equipment from 3 kV to 600 kV

Suitable for cable systems (cables, joints, terminations), GIS, switchgear, transformers and electrical machines (motors, generators, turbines, etc.)

CONTINUOUS MONITORING: PRY-CAM GRIDS



Fixed device for the permanent monitoring of PD in AC electrical systems.



Sensors for the fixed measurement of PD and local temperature in AC systems.**

KEY FEATURES



No galvanic connection, allows installation during normal operation



Suitable for PRY-CAM WINGS sensors for PD and local temperature



PD pulses waveform and frequency spectrum acquired up to 50 MHz



Advanced warning and alarms based on exclusive PRY-CAM BRAIN™ algorithm for automatic diagnosis



Several data connectivity modes for remote communication and access



Accurate PD pattern acquisition

DISTRIBUTED TEMPERATURE SENSING

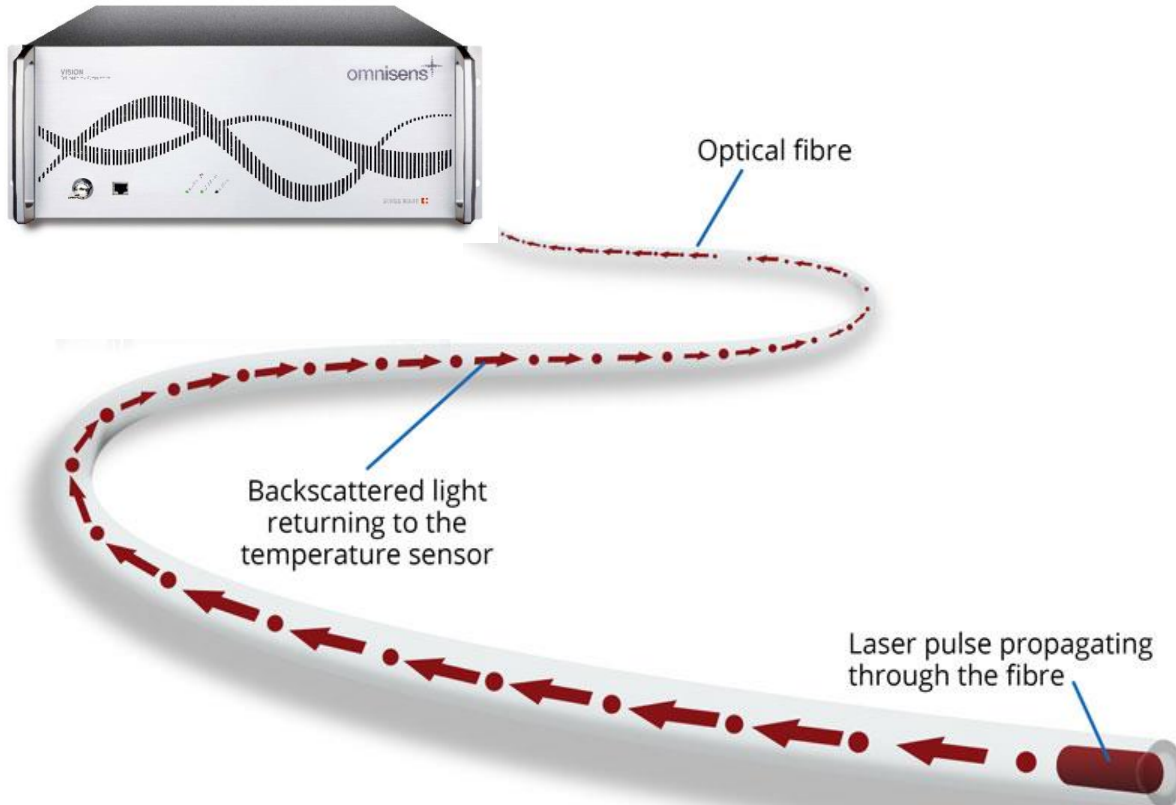
Benefits:

- **Detect anomalies**

- hot spots linked to cable or the environment
- any changes of the environment

- **Safely maximize utilization** of the circuit

- Estimation of conductor temperature
- Cyclic and emergency rating capability



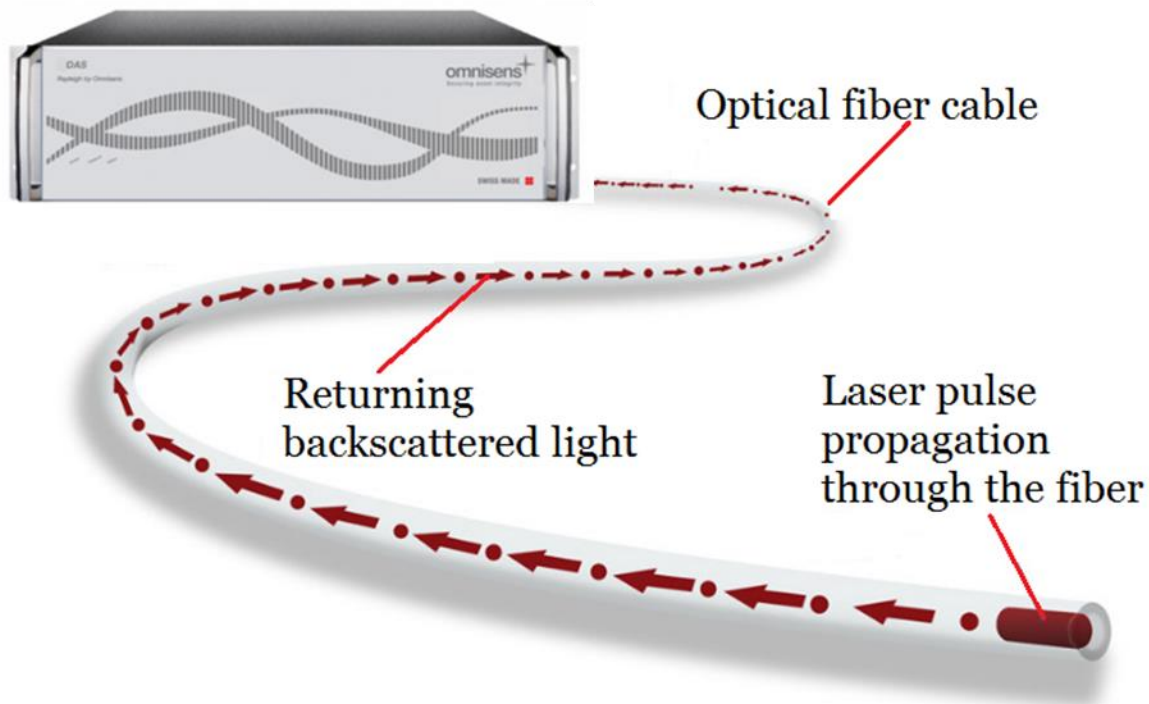
DISTRIBUTED ACOUSTIC SENSING

Potential benefits:

- Detection of cable fault location (with high precision)
- Third party intrusion (anchoring, excavation etc.)
- Substation security

Performance:

- 80 km, soon up to 100 km
- 2 Channels



Efficiency

- Maximize circuit utilization

Reliability

- PD test of electrical components to prevent failure
- Monitoring of critical part of transmission system

Availability

- Real time fault location
- Third part intrusion monitoring