



NovaFAZ SHM
Fibre optic structural health
monitoring solution

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Headquarters: Amsterdam, NL

Founded: 2011

Employees: 80+

Divisions: Optics11 & Optics11 Life

World leader for optical monitoring parameters:

- Partial Discharge
- Acoustic Emission
- Underwater acoustic
- Structural health monitoring



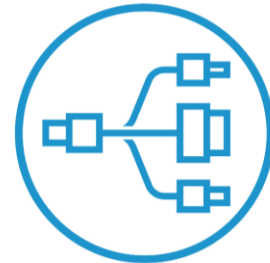
Optical monitoring benefits



**EMI
IMMUNITY**



**REMOTE
LOCATIONS**



**SIMPLIFIED
CABLING**



**NO POWER
REQUIRED**



**WEATHER
PROOF**



**MULTI
PARAMETER**



OptiFender

The world's only fiber optic sensing system for **partial discharge** monitoring



NovaFAZ

Accurate and precise fiber optic monitoring system



- Strain
- Temperature
- Acceleration
- Pressure
- Tilt

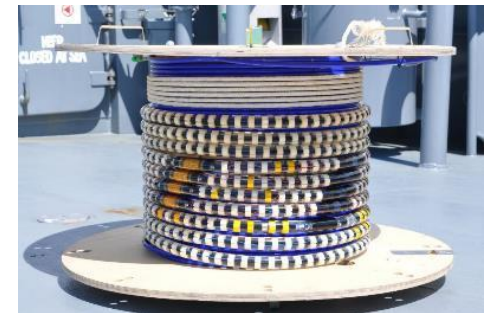
DeltaSens

Extremely sensitive **acceleration** sensing system



OTADES

Thin and highly sensitive fiber optic **hydrophone** array





Reliable asset lifetime extension

Safety of people and asset

Triple cost reduction:

- Hardware
- Installation
- Ownership



Monitoring solutions



Remote locations

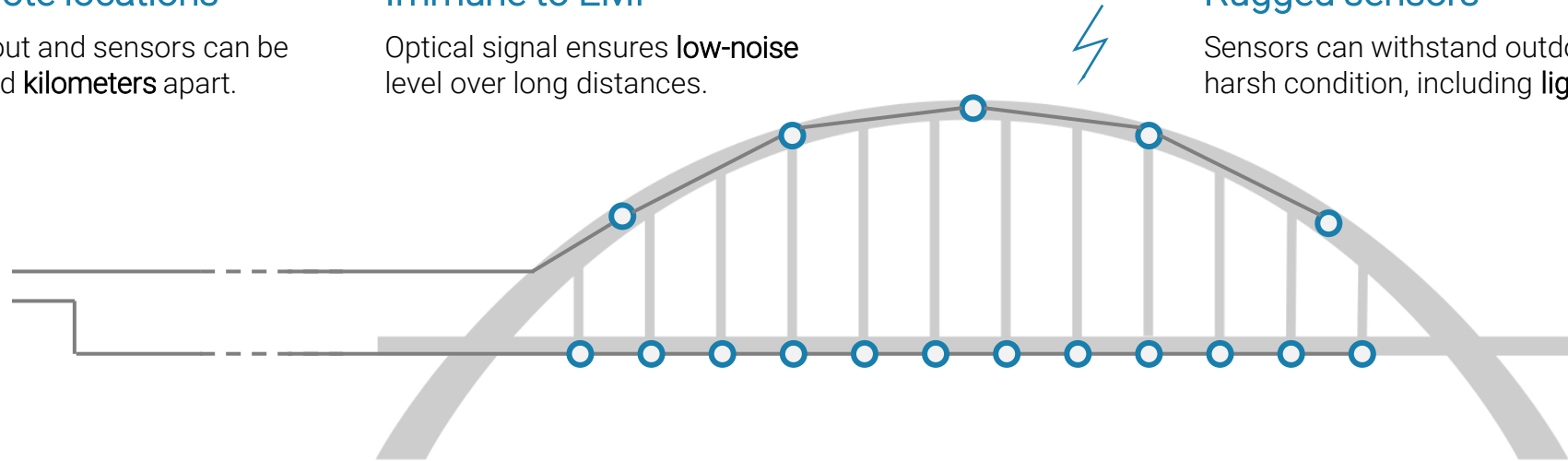
Readout and sensors can be spaced **kilometers** apart.

Immune to EMI

Optical signal ensures **low-noise** level over long distances.

Rugged sensors

Sensors can withstand outdoor harsh condition, including **lightning**.



Single lead cable

A **single telecom fiber** can stream the signal of multiple sensors.

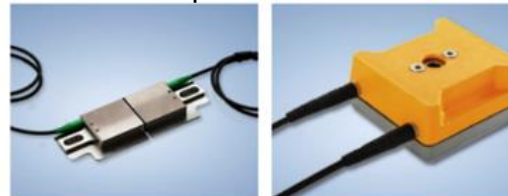
Passive sensors

No power source needed at the sensing location.

Strain, T, Tilt, Displacement, Acceleration ...



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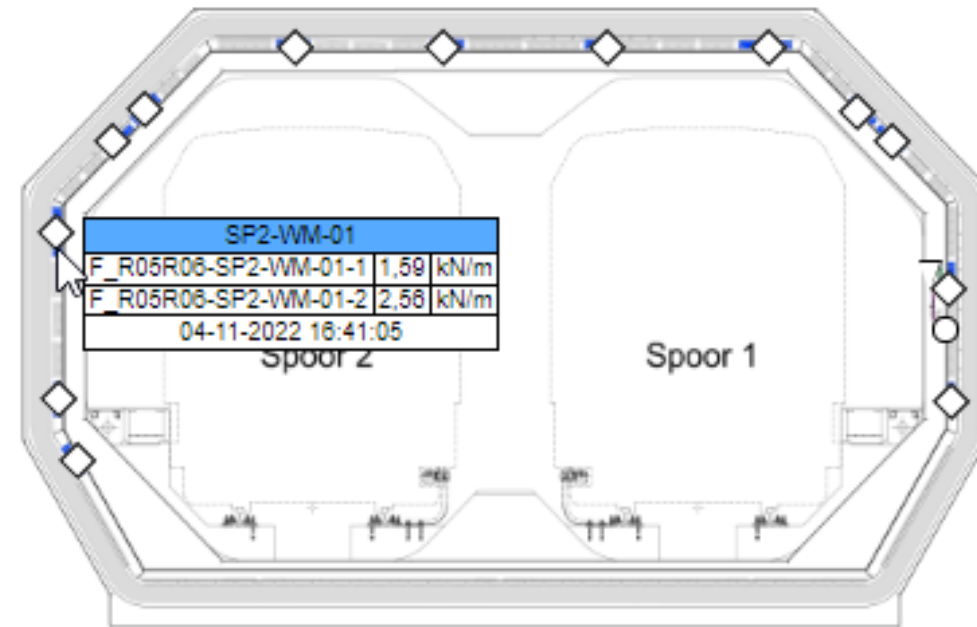




- Accessories allows to adapt system to all infrastructures
 - Ruggedized cables
 - Distribution boxes
 - Industrial enclosures
- Standardized connectors for fast and easy installation
- All components rated for outdoor conditions

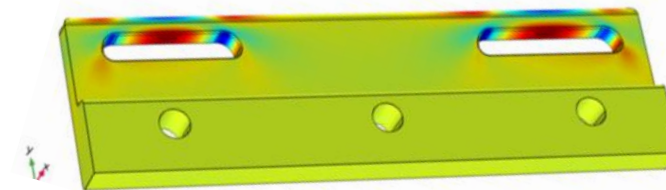
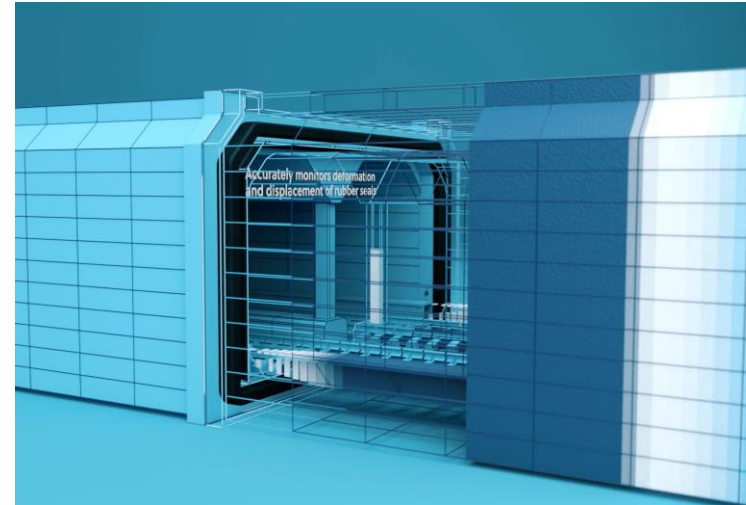
Enabling Monitoring partners solutions

- Optics11 Enabling customer projects
- Providing combinations of hardware and software
- Providing optical knowhow and solution design support
- Enabling Fugro fibre optic seal monitoring using the low noise and high accuracy of NovaFAZ



Meet Fugro fiber optic seal monitoring

- Health of seals between tunnel segments
- Seals especially important in immersed tunnels
- Sensors are installed between 2 adjacent concrete tunnel elements
- Optical cabling allows for simplified and robust connection of these sensors



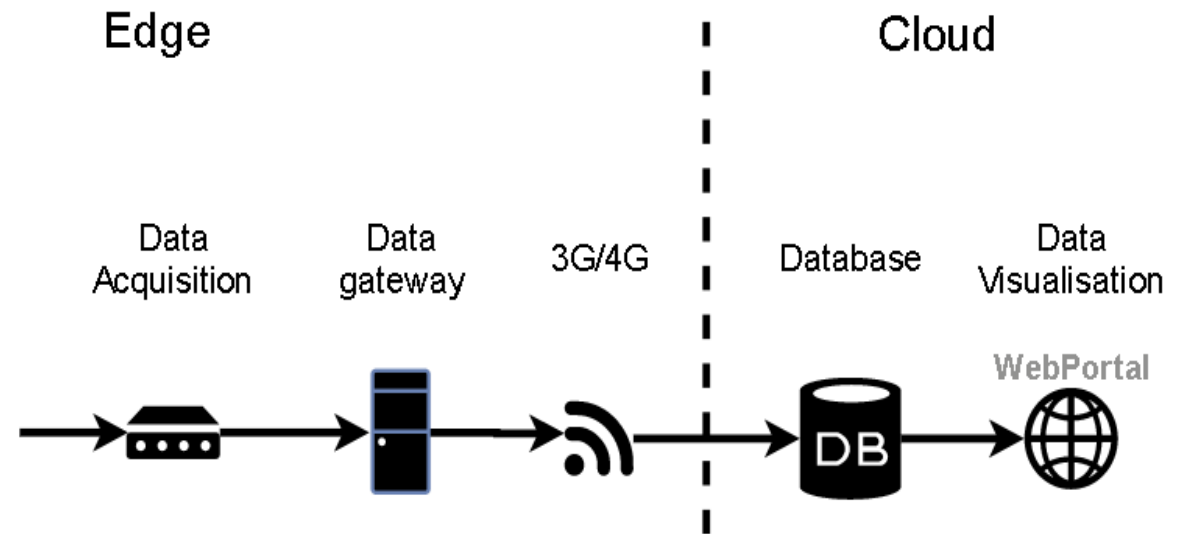
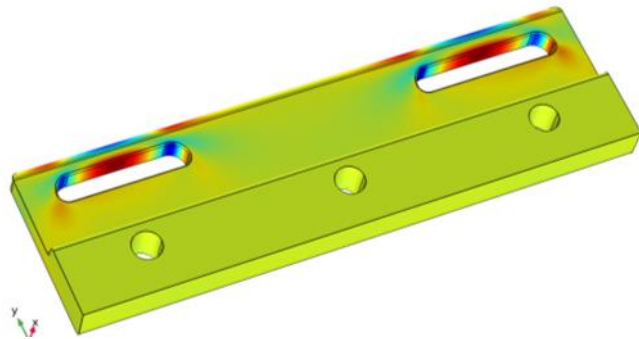
Highly accurate strain sensing enabling accurate tracking of seal health



Rotterdam Metro

- Tunnel seal movement continuously monitored
- High quality data sent from NovaFAZ to Fugro Gaia
- Continuous real time monitoring and anomaly detection

Fugro fibre optic seal sensor



Visit our website
www.optics11.com



The screenshot shows the OPTICS11 website homepage. At the top left is the OPTICS11 logo. To the right is a navigation menu with links for Products, Applications, About Us, News, Careers, and Contact. The main heading reads "Game changing Fiber Optic Sensing Solutions" with a sub-heading "State-of-the-art sensing systems for unmatched performance in the most challenging environments". A "Learn More" button is positioned below the sub-heading. The page features three main content blocks: 1) "OptimAE Acoustic Emission System" with a description of its fiber optic acoustic emission sensing capabilities and a "Read More" link. 2) "NovafAZ SHM System" with a description of its fiber optic monitoring system for civil assets and a "Read More" link. 3) "OTADES - Underwater Acoustics" with a description of its optical thin reelable towed array and a "Read More" link. A dark blue "All Products" button is located at the bottom right of the content area, with a "Read More" link below it.

