



STRUCTURAL HEALTH MONITORING OF BRIDGES

Real time remote monitoring system for bridges

PROTECTION AGAINST

environmental corrosion
material aging
fatigue
natural disaster hazards

Bridges are **necessary for transport and communication** in many cities and countries. However, their progressive deterioration begins once they are built and **subjected to excessive loadings or adverse environmental conditions**. For long lifetime of bridges, it is necessary to have **prompt and intensive monitoring** in place in order to protect and maintain these infrastructures.

INTENDED FOR

bridge owners
bridge engineers
cities
construction companies

- ▶ continuous evaluation of structural safety, integrity, suitability and durability
- ▶ minimization of damages and improved maintenance planning
- ▶ monitoring remote areas with a single system

ANALYZING TECHNIQUES



static loading
with force
applied slowly



dynamic loading
with force
applied rapidly



strain to
monitor
changes



bending to
measure the
average internal
stress



cracking
to monitor
changes

FEATURES & BENEFITS

Fiber Bragg Grating (FBG) technology

FBG technology brings many advantages over the conventional sensing methods, such as immunity to EMI/RFI, high precision, durability, quasi-distribution, absolute measurement, compact size, reduced cable requirement etc.

Multifunctional measuring platform

Several sensors with different functions can be connected in series on a single fiber without signals being confused. The necessary cable length becomes considerably smaller.

Prevention of catastrophic failures

Thanks to the structural health monitoring of bridges you will be able to take appropriate action in advance and thus minimize potential damages and losses.

Suitable also for bridges under construction

Our system enables monitoring of not only existing bridges but also of bridges that are under construction. In that case the sensors are placed inside the bridge structure.

Web interface

You will be able to manage the system via a user-friendly web interface, which also provides all necessary information about the structure and reporting and data analysis features according to your SLA.

Customized solutions and adjustments

The system can be modified to meet your project's needs, such as the desired functionality, interoperability, etc.

Early warning of events

The system is equipped with direct alarm relays for immediate notifications via email, SMS or other communication interfaces in case of very large and unusual events.

Service and maintenance planning

We will help you optimize your service and maintenance planning based on your specific needs to ensure efficient operation.

Measuring over long distances

The distance between the unit and sensors can be several tens of kilometers. Therefore, you can cover a large area with one unit and lots of sensors.

Use of existing fiber optic network

Installation of an expensive sensor infrastructure or availability of electrical power is not necessary, and this makes our system the most economical solution for monitoring many sensors spread over a large area.

Reporting and data analysis

Our system for monitoring of bridges provides the necessary reporting and data analysis features. The available level of service is according to SLA.

PRODUCTS USED



FBGuard 1550

Highly accurate monitoring system for industrial measurements



FBG temperature sensor

Temperature sensor for structure or environment monitoring



Data processing

Universal solution for your data analysis and processing needs



Graflux

Data visualization, storage and analysis service



Support

Full support for planning and design of optical and sensors systems according to your requirements

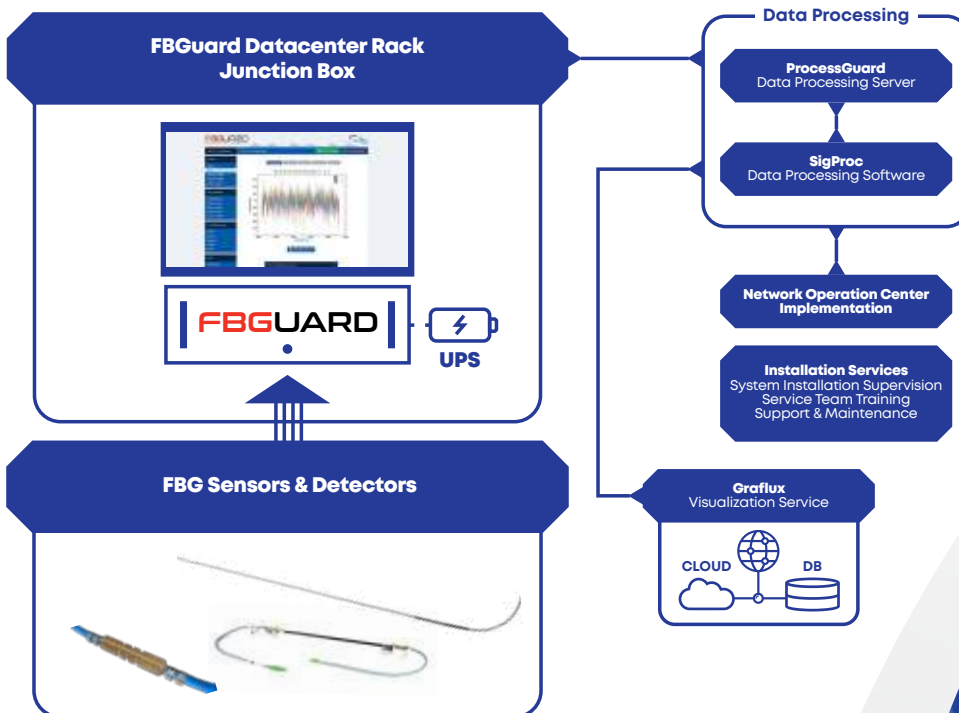


Training

Service team training tailored to your needs provided by a highly skilled and experienced team

APPLICATION SCHEME

Example of a typical setup. Choose the project scale that you prefer.



GET IN TOUCH WITH US
and we will recommend you the most suitable solution for your project.

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