



SHM of BRIDGES

THE ACOUSTIC EMISSION SOLUTION

vallen systeme



The Acoustic Emission Company

Get Your Monitoring Challenge under Control with Acoustic Emission

Why Structural Health Monitoring?

■ THE DEMAND

With increasing number of aging long-life industrial assets and new constructions, the demand for Structural Health Monitoring (SHM) rises. This is necessary in order to identify structural defects or critical conditions.

■ THE LIFETIME OPTIMIZATION

SHM is applied in assets (especially bridges and tunnels), where financial, environmental and human risks are existing. As operators are faced to manage operational risks and minimize maintenance costs, monitoring systems can offer operational optimization and possible lifetime extension of these structures.

■ THE CAUSE

The most frequent cause for deterioration of concrete structures is corrosion of the reinforcing tendons. This has a negative impact on safety and operability of the constructions.

■ THE REALIZATION

The known "hot spots" representing the critical sources of defect are equipped with appropriate sensors for monitoring and analyzing activities inside.

■ THE SOLUTION

Using Vallen Systeme's Acoustic Emission solution, you'll get your monitoring challenge under control using one measurement system.

Your Benefits

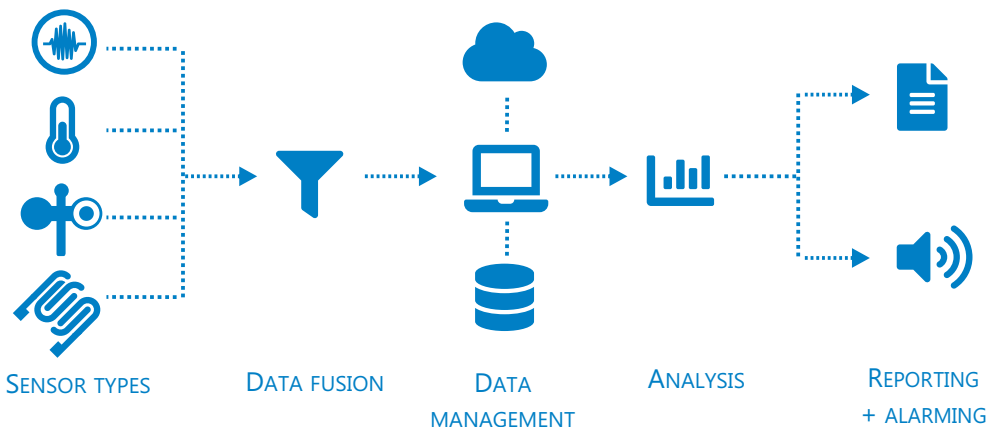
- 1 Detection + location of defects during operation
- 2 Monitoring of hidden and remote flaws
- 3 Real-time monitoring 24/7 and early warning
- 4 Integration + analysis of different sensor types in one system
- 5 Customized solutions
- 6 Improved risk and maintenance management



A big step forward!

vallen systeme
The Acoustic Emission Company

Monitoring Process Flow



■ SENSOR TYPES AND DATA FUSION

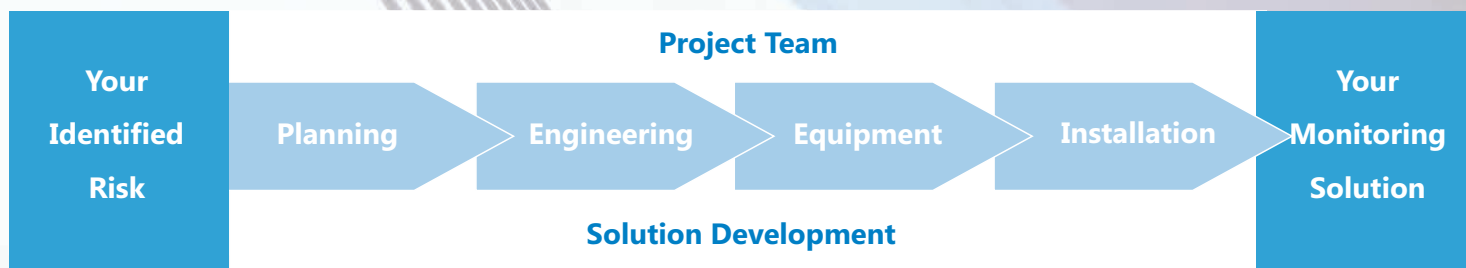
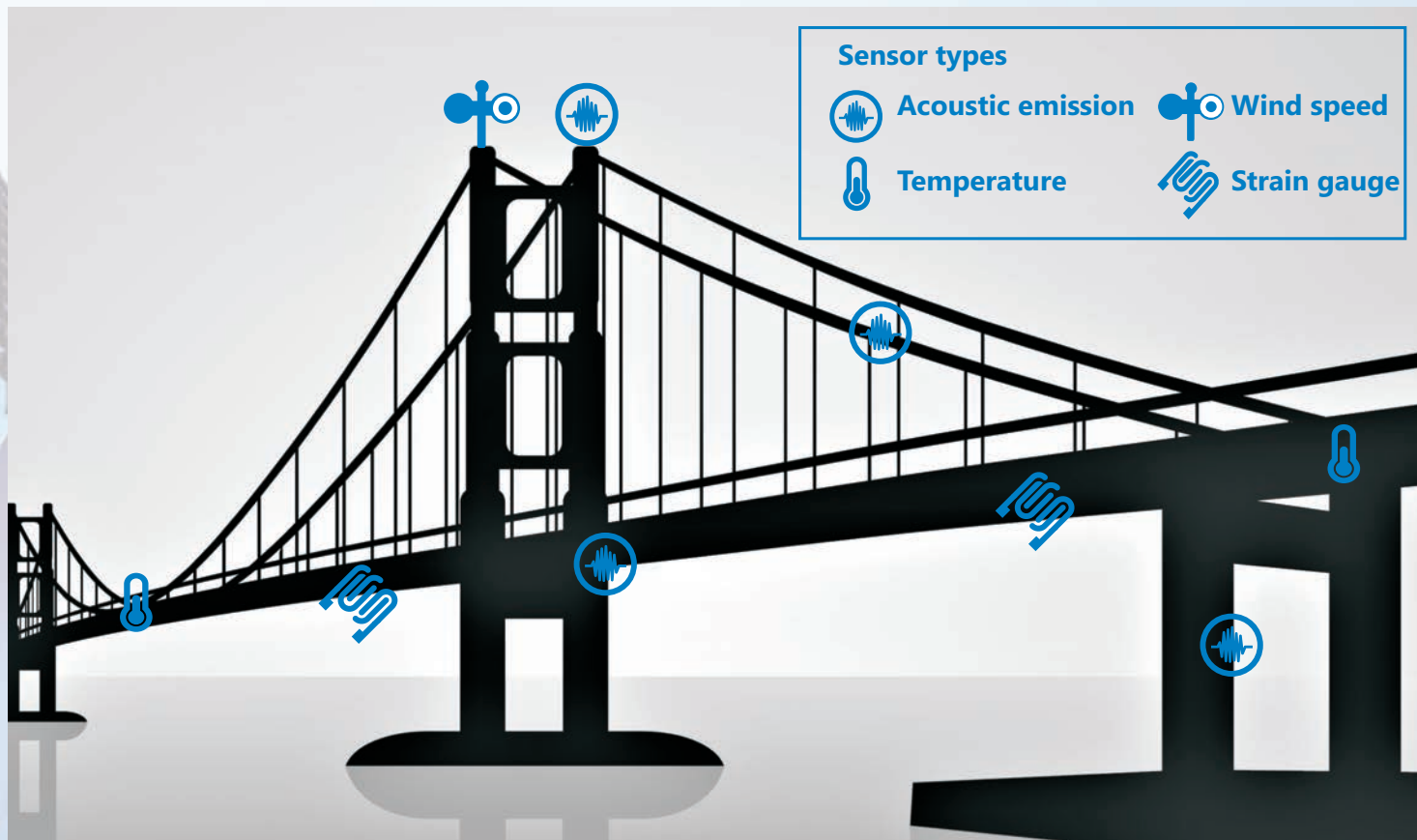
Data fusion of various sensor types, e.g., for temperature, wind speed or strain gauge measurement, can be totally integrated by data logger.

■ DATA MANAGEMENT AND ANALYSIS

Data are conveniently analyzable together with acoustic emission data by Vallen software. Data storage in cloud and remote control are given.

■ REPORTING AND ALARMING

Results are reported and alarm is triggered.



Your Vallen System's Acoustic Emission Solution



■ THE CUSTOMIZING

Your customized monitoring solution can be realized in several steps via solution development by a project team consisting of Vallen System, service provider, and engineering consultants.

■ THE VALLEN SYSTEM'S PERFORMANCE

Vallen System provides acoustic emission equipment and engineering services in monitoring projects for operators, consulting engineers, service providers and public authorities.

■ THE EXPERTISE

Many years of experience in feasibility studies and various projects has resulted in continuous improvement and tailored measurement chains.

■ THE ADJUSTMENTS

Sensors, their mounting devices and cables, as well as data acquisition and software features are adjusted to the new demands which makes the measurement system applicable in various 24/7 real-time monitoring projects.



FAST__SMART__RELIABLE

Vallen Systeme GmbH
Schäftlarner Weg 26a, 82057 Icking/Germany
Tel: +49 8178 9674 400, E-mail: info@vallen.de
www.vallen.de