

# STRUCTURAL HEALTH MONITORING SOLUTIONS

## TECHNICAL CAPABILITIES

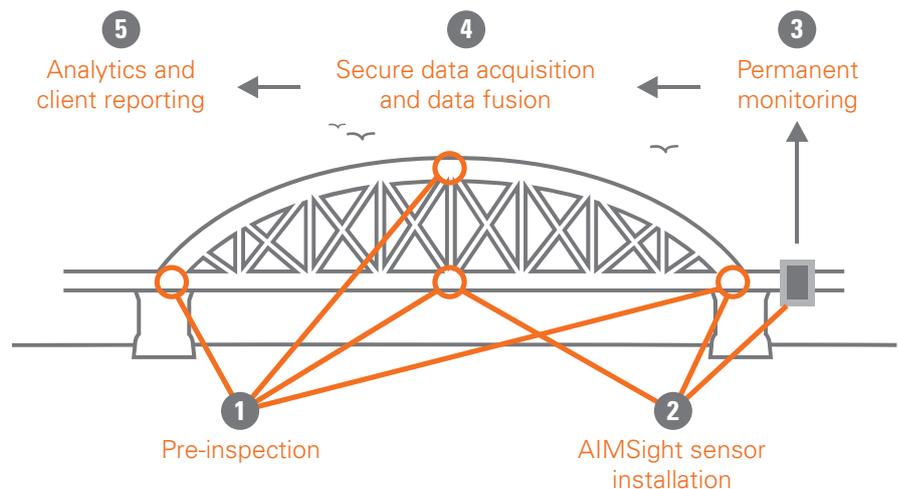
As the number of critical ageing assets increases rapidly, the standard non-destructive testing (NDT) that has been effective over the last 50 years is no longer enough. Permanent, real-time, sensor-based monitoring delivers more advanced data to enable the safe operation of assets, it replaces traditional discreet NDT inspections with a solution that keeps you continuously informed of evolving defects without compromising industrial standards.

Monitoring the structural health of industrial and infrastructure assets, even in the most demanding environments – such as ATEX and underwater – is key to avoid the huge financial and operational consequences of failure or shutdown, and safely extend the life of your asset.

SGS's monitoring capabilities offer:

- 24/7 surveillance,
- Certified data collection and processing chain
- Hassle-free, small upfront, monthly and/or yearly data contracts

### PROTECT ASSETS WITH 5-STEP PERMANENT SENSOR-BASED MONITORING



The range of services offered by our experts includes:

### DEFECT MONITORING

Currently, SGS provides two different eddy current probe types. These probes along with an AIMSight monitoring system provide exact answers to various structural defects. These probes are designed to target specific defect types using a certified eddy-current NDT solution:

- **Non-contact crack gauge (metallic structures)**

Equivalent to keeping an inspector on-site 24/7, our non-contact crack gauge monitors known defects or critical spots with the first ISO 15548-compliant monitoring solution. No need for paint removal or surface preparation, your structure is left intact.

What is measured: crack initiation and propagation in length or depth.

Specifications: crack length measurement range: 0.5 - 50.8 mm; crack depth measurement range: 0.5 - 25.4 mm; crack length resolution: down to 2 mils\*; crack depth resolution: down to 2 mils\* (\*under laboratory conditions)

## THE BENEFITS OF PARTNERING WITH SGS

SGS is the world's leading inspection, verification, testing and certification company. Recognised as the global benchmark for quality and integrity, we employ over 95,000 people and operate a network of more than 2,400 offices and laboratories around the world. We are constantly looking beyond customers' and society's expectations in order to deliver market leading services wherever they are needed.

Our permanent, real-time, sensor-based monitoring solutions combines SGS's global real world NDT experience with AIMsight's advanced knowledge of miniaturization, interfacing and data processing to help you safely extend the life of your assets.

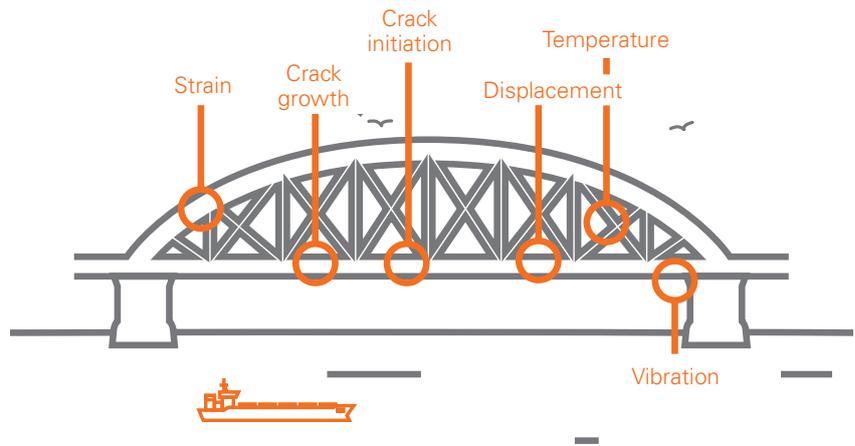
### CONTACT US

For further information contact your local SGS Industrial team or;

Visit [www.sgs.com/innovativeNDT](http://www.sgs.com/innovativeNDT)

Email [industrial.global@sgs.com](mailto:industrial.global@sgs.com)

- **Drill-stop hole gauge**  
Alerts you in case of crack re-initiation after a crack repair. ISO15548-compliant monitoring solution.  
What is measured: crack initiation and propagation in the drill-stop hole (180° or 360° coverage).  
Specifications: available in 1/4", 7/16", 1/2" and 2/4" sizes; crack length measurement range: 0.5 - 12.7 mm (size-dependent); crack length resolution: down to 2 mils\* (\*under laboratory conditions)
- **Crack gauge (non-metallic structures)**  
Monitor crack opening on concrete or non-metallic structures.  
What is measured: crack opening progressively breaks parallel sub millimeter  
Specifications: crack length measurement range: 2 - 25.4 mm; crack length resolution: 1 mm



## STATE-OF-THE-ART SHM SENSORS

Enhance your understanding of an asset by seamlessly combining defect signals with additional state-of-the-art Structural Health Monitoring (SHM) sensors:

- **Strain gauge**  
Determine the stress distribution in the structure and its reaction to dynamic loads and temperature variations. Full-bridge strain gauge readout.
- **Displacement**  
Measure the relative position of structural elements; choice of high resolution (0.01 mm) and long-travel (up to 2m) channels.
- **Accelerometer**  
Monitor vibrations in your structure with our 3-axis accelerometer module (+/- 2g typ).
- **Temperature**  
Up to 20 environment and structure temperature channels.
- **Camera**  
Capture images based on loading or trigger measurements during dynamic events such as vehicle crossings. Correlate the sensor reading with estimates of the bridge load.