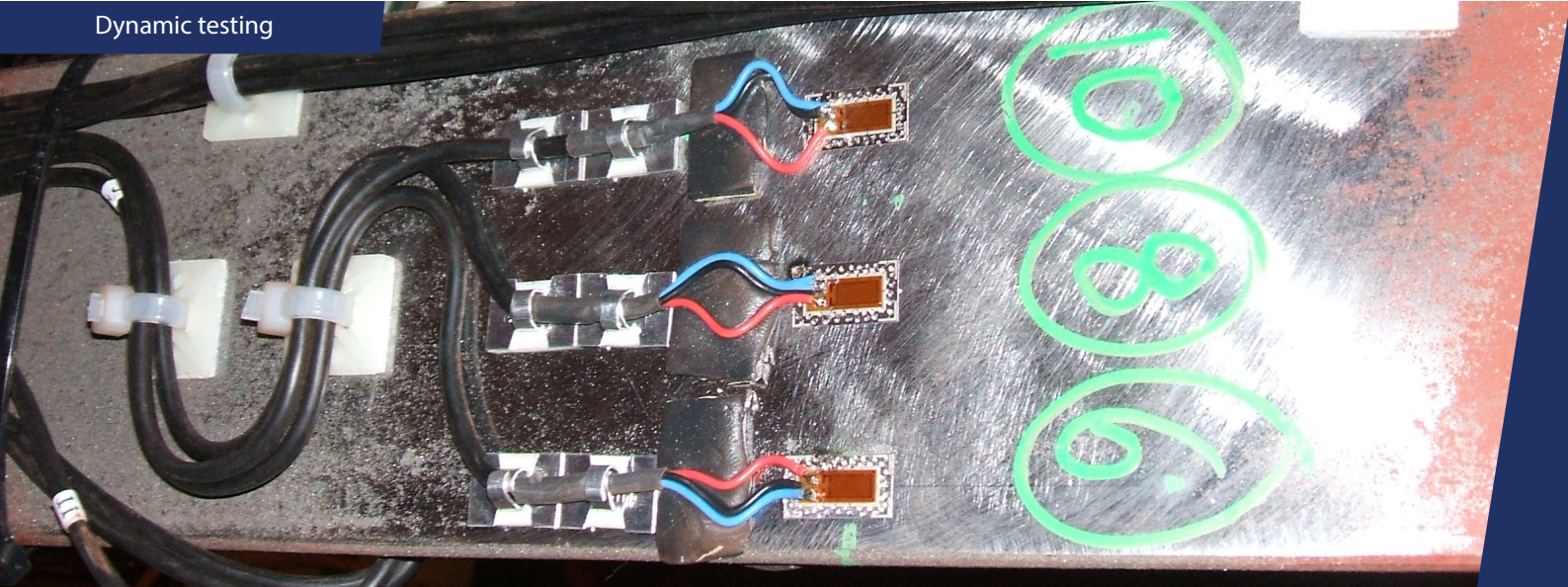


Dynamic testing



## Dynamic testing

Deflection, vibration, strain monitoring

Straininstall is equipped to undertake dynamic response testing of structures, with our quick-to-mobilise equipment that can be easily set up on site.

Measuring displacement and vibration responses is a common requirement with bridge structures, with key parameters to be determined including displacements, frequencies of response and damping coefficients.

Basic configuration includes linear displacement transducers and optional accelerometers - fitted to telescopic poles. Raised to the soffit from ground level, they reach a maximum height of around 9m, and are pushed into firm contact with the bridge.

Other sensors, including strain gauges, can be incorporated, but may need special access arrangement for installation.

The sensors are connected to a high speed data acquisition system, capturing data at a rate that is sufficient to enable the full dynamic characteristics to be measured. Our Straininstall engineers operating the equipment are able to carry out analysis on the data as testing proceeds to confirm key parameters and system functionality.

For rail bridge tests it is particularly important to record train details in order for the loading patterns to be correctly interpreted. Our site teams are skilled in train identification, with a video camera also being often employed to record train events.

### Features

- Linear displacement transducers
- Accelerometers
- Displacement transducers
- Strain gauges
- Multi-channel high-speed data acquisition system

### Benefits

- Rapid installation and set-up
- Data analysis as trials proceed

### Projects include:

- Over 80 bridge resonance tests for the West Coast Route Modernisation project, from initial studies to verification tests involving the C390 test trains
- Motorway underbridge deflection measurements - assisting in determination of a safe method for welding as part of a strengthening scheme
- Deflection measurements to assist in structural assessment (CTRL scheme)

Straininstall's team of experienced engineers operate from offices in Europe, Malaysia, UAE, Qatar and Singapore

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