

THE NEW SAFETY STANDARD FOR TRANSPORTATION INFRASTRUCTURE

Real-Time Sensor Data Management

Enhanced risk mitigation, operational efficiency optimization, and safety are vital factors for developing monitoring programs for transportation infrastructure. With increasing regulatory and operational demands to actively manage risk, costs, and time, transportation agencies are looking to better monitor and protect their assets.

Current market solutions are costly, complicated to manage, and lack real-time visibility and analytics. With the sensemetrics end-to-end cloud-based solution, we are providing agencies with complete data capture, standardization, and real-time data visualization and intelligence. Differentiated by a true cloud design and API-driven architecture, the platform reduces the cost and complexity of introducing IoT strategies into complex geotechnical, structural, environmental, and spatial monitoring applications by removing the need for lengthy and costly installation, services, and customization.



Bridge Monitoring

Advanced technologies supporting faster construction methodologies and cost-effective long-term health monitoring of superstructures



Embankment Monitoring

Integrated sensor and remote sensing solutions for active management of embankments and ground improvement



Railway Monitoring

Automate a wide range of sensors to monitor various rail assets 24/7 on your laptop or mobile device

**Structural Health Monitoring**

Sensor data fusion and analysis for long-term structural performance monitoring and post-event damage assessment

**Surcharge Staging**

Decrease waiting periods with near-real-time data insights on underlying soil response

**Geohazards**

Application of monitoring, early warning, and stabilization verification technologies

**Shoring**

Continuous performance monitoring of earth retention systems for safety and compliance

**Safety & Compliance**

Proactively manage assets and their ongoing compliance with identified risk management practices

**Noise and Vibration**

Monitor and distribute operational feedback to managers and crews while verifying compliance with noise and vibration ordinances

**Dewatering**

Optimize implementation and compliance of groundwater dewatering and water balance programs

**Infrastructure Protection**

Reduce risk of damage and negative impacts on adjacent infrastructure with real-time condition monitoring

Savanna-Sabula Bridge

Engineers precisely monitored deflection and deformation of the Savanna-Sabula bridge during construction of a replacement bridge adjacent to the current alignment using the sensemetrics platform. This ensured that the existing bridge maintained structural integrity and was operating safely during the construction process. Having real-time data is critical in this application because the Savanna-Sabula bridge was still operational, thus even minor deflections or deformations need to be immediately addressed. Additionally, sensemetrics software aggregated data from two Automated Motorized Total Stations (AMTS) and calculated deltas from pre-calculated station coordinates, in real-time. This allowed construction crews to precisely place structural members per engineer's specifications – and subsequently verify that placement doesn't deviate.

CDOT US 36

After a 1,000-year flood event hit the Denver front range in 2013, the slopes along one of Colorado's most heavily traveled mountain highways were tested. In response to the exposed risks, CDOT initiated migrating their rockfall monitoring program for the highway which leads to Rocky Mountain National Park to a real-time cloud-based solution. Thirty-five crackmeters were automated at two sites along the steep rock-faced corridor and were easily connected to the sensemetrics Cloud. The sensemetrics solution allows engineers to utilize automated alerting for when thresholds are exceeded and to be the first to know when an event occurs.