



-  Accelerometer
-  Strain Gauge
-  Anemometer
-  Tiltmeter

IoT Structural Health Monitoring

BIAS Solution

Solution Overview

Structures, such as bridges, tunnels, buildings, dams, pipelines and railroads, among others, are complex engineered infrastructures that are utilized every day and a key facet required to ensure society's economic and industrial prosperity. Though structures are designed to be safe for public use, standardized to specific building codes and design methodologies, they can be subjected to harsh loading scenarios and severe environmental conditions. These unanticipated conditions can result in long-term structural deterioration.

BIAS Internet of Things for Still Structure Monitoring enables the health of structures to be monitored by identifying key areas where sensors can be attached that gather important information such as vibration, load, temperature, and acoustics, among others. This data can be used for notification of emergency events or analyzed over time to understand trends. The analytics can be used to inform structural engineers that inspection or maintenance is required. The events can be streamed to alert public safety departments or traffic management, hospitals, or other response systems.

Connect, Analyze, Integrate

BIAS IoT Structural Health Monitoring Solution will connect securely to their IoT-enabled sensors that provide information regarding movement, tilt, load and distortion.

CONNECT: BIAS leverages Oracle IoT's client libraries, gateway software, REST Application Programming Interfaces (APIs) and streaming of data to deliver real-time information from IoT devices in user friendly format. BIAS utilizes wireless sensors such as accelerometers, strain gauges, anemometers and temperature sensors, intelligent gateways and adaptable protocols to build a wireless network on bridges, tunnels, retaining walls and other standing structures to gather valuable real-time information.

ANALYZE: BIAS Structural Health Monitoring real-time analytics utilizes business rules, event stream processing to report out of tolerance and anomaly information. BIAS uses Oracle's Advanced Analytics, Machine Learning and AI to provide information on historical trends and predictive maintenance notification.

INTEGRATE: BIAS extends the value of IoT by integrating into enterprise and 3rd party applications and processes with IoT data. The solutions use open APIs and orchestrated integration and can be used to interact with municipal departments and other organizations such as local emergency, fire and police, weather, schools and hospitals. REST APIs. These provide API-based integration with Oracle PaaS and SaaS applications as well as with non-Oracle applications and IoT devices.

Why BIAS?

Only BIAS offers this complete end-to-end solution with real-time dashboards, advanced analytics and comprehensive integration. BIAS has deep expertise in the entire Oracle Technology platforms, specifically integration and analytics - the core features needed to realize the value of IoT. BIAS is an Oracle Platinum Partner with IoT premium status. Mitigate risk in going to cloud with predictable, forecastable cloud costs. BIAS offers Managed Cloud Services or a subscription based solution.



Key Features

- Integrates sensor data with city and county applications and business processes
- Enables real-time, streaming analytics regarding vibration, tilt, strain, temperature and other Key Performance Indicators (KPI)
- Provides end-to-end security for devices and applications
- Device virtualization exposes devices as resources
- Runs on Oracle's enterprise-grade cloud infrastructure

What's Next?

Contact us at info@biacorp.com to set-up a one hour consultation **free of charge** to discuss your business needs.

BIAS

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