Geocomp

Technologies to manage risk for infrastructure

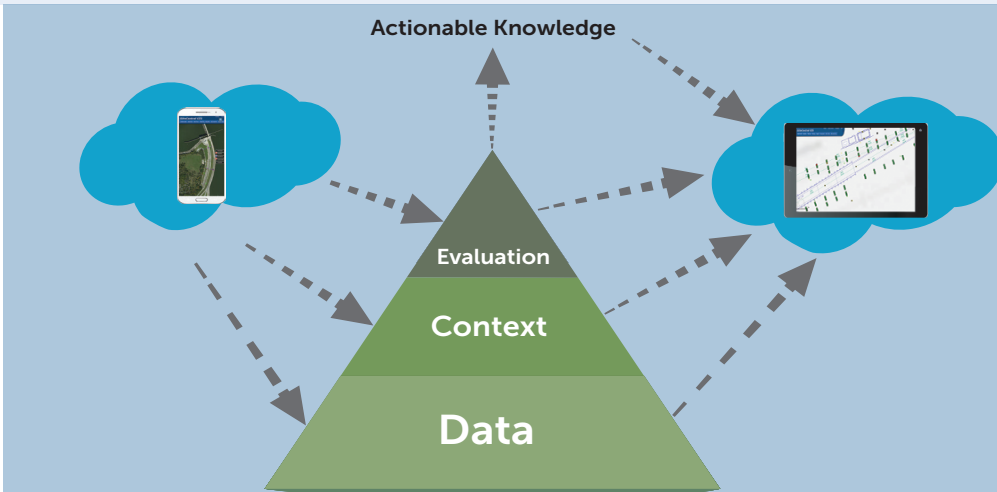
MTA Second Avenue Subway, NY

*i*SiteCentral®

Sensor to Screen™

Managed Services for Cloud-Based Web Monitoring of Infrastructure and the Environment

Integrating data and information to provide actionable knowledge



*i*SiteCentral® Managed Monitoring Services
Transforming your data and documents into actionable knowledge

Providing secure, reliable, and scalable data and information collection, storage analytics, and reporting

Geocomp's web-based, real-time, automated instrument monitoring system – *i*SiteCentral® – is a robust, reliable, and scalable automated data collection and management system that enables clients to reduce risk resulting from unexpected performance of a facility.

With *i*SiteCentral®, numerous data points can be monitored to provide real-time warnings of significant movement, stress, vibrations, noise, groundwater, and other performance metrics during construction and operation.

Geocomp's *i*SiteCentral® systems provide real-time, reliable information and associated documentation on a single platform enabling simultaneous access to data and related documents to support real-time informed decision-making.

*i*SiteCentral® provides data, documents, maps, and photos in space and time context to support rapid evaluation and interpretation of data and information.

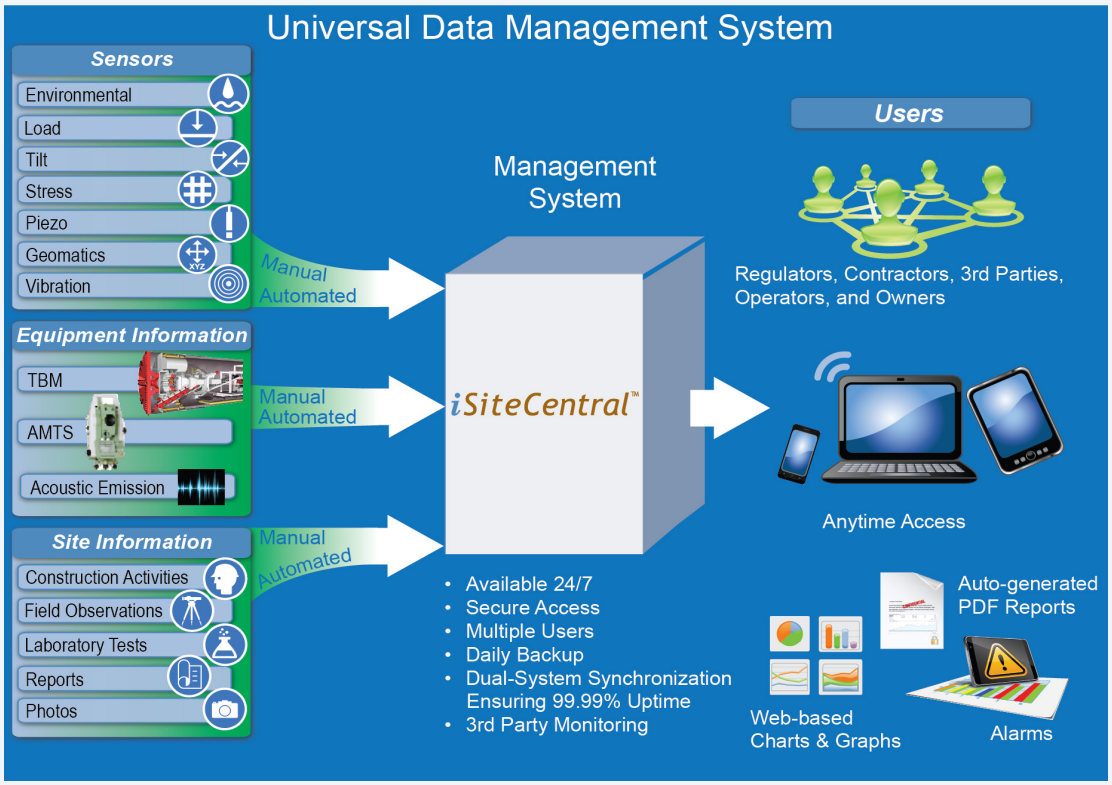
Geocomp operates a robust, scalable, cloud-based, automated data collection and management system to monitor the performance of infrastructure projects in real-time, every minute of every day. Real-time web-based monitoring provides early warnings of unexpected or surprise performance in time for corrective actions to be implemented and avoid damage, failure, delays, and claims. By placing sensors on levees, dams, bridges, excavations, buildings, and other structures, the onset of distress or failure modes can be determined before expensive consequences occur.

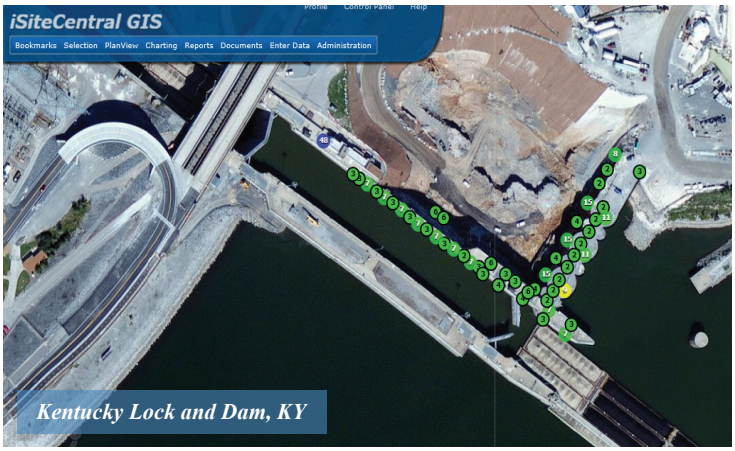
*i*SiteCentral® provides real-time web-based monitoring with automated alerts to help our clients stay on top of the performance of their projects. Charts, graphs, tables, maps, photos, and reports are provided through a geographic information system (GIS) interface.

Since 1998, our *i*SiteCentral® service has been providing integrated data collection, reporting, and alerting capabilities for a wide variety of sensor inputs, data loggers, and applications. Today, the system manages more than 1 TB of data and more than 50,000 sensors. It can be scaled to support both small and large-scale infrastructure projects, such as the Crenshaw/LAX and Regional Connector projects in Los Angeles and the East Side Access and World Trade Center projects in New York City. *i*SiteCentral® has been used to monitor projects consisting of a few sensors read infrequently to tunnel boring machines producing 1GB of data each day.

The *i*SiteCentral® software resides on secure servers in Geocomp's offices in Massachusetts. These systems operate continuously to monitor data from sensors all over the world. Data are placed into a secure Microsoft SQL database. All interactions between the customer and *i*SiteCentral® are through a password protected Web interface or task-specific apps. The system resides inside a firewall to protect its integrity and provide security. All data exchanges are encrypted.

*i*SiteCentral® continuously monitors sensors and system components to determine if one or more parameters exceed established action levels. Automatic alert messages are sent by email, text message, or phone call to the project team. This feature provides clients with a very effective risk management tool. Task-specific apps for handheld devices provide users with easy-to-use in-field tools.





Kentucky Lock and Dam, KY

iLevee, New Orleans, LA

Providing Managed Services for:

- Cloud-Based Web Monitoring
- Interactive Dashboard
- Performance Awareness
- Real-Time Alerts
- GIS-Based Maps and Charts
- Function Specific Apps
- Automated Report Generation
- Integrated Data from Many Sources

Data Management System

- Private cloud-based service operations behind secure firewall
- Integrated document and photo management system
- Centralized repository for all documents
- All information tagged and displayed in space and time
- Dynamic data driven reporting
- Automatic report generation
- Automated email notifications
- Nightly redundant backups and off-site backups
- >99.99% uptime (independently verified based on 2013 statistics)
- Automatic rollover to second mirrored server with no loss of service if primary server fails
- Separate modules for data exchange and data storage to protect integrity of the database

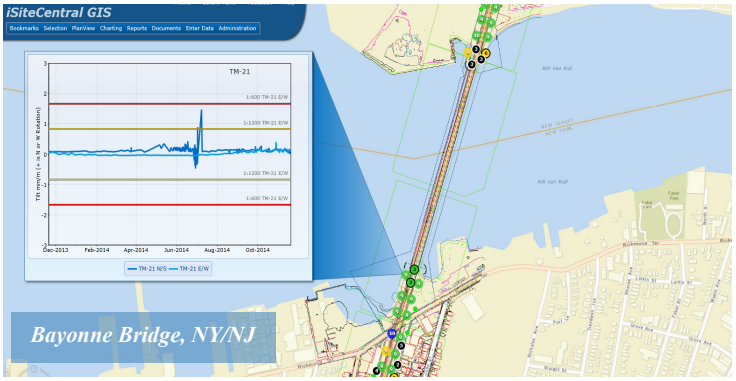
Data Interoperability and Accessibility

- Remote user web interface to view, enter, and manipulate data
- Ability to manually import a variety of data and file types into database
- Supports client creating own plots
- RSS feed features
- Supports integration of 3rd party web data services
- Accepts data from almost all sensor types and data sources
- SQL database structure enables polling of the data from outside *i*SiteCentral® for integration with other systems and customized reporting
- Device pollers handle data upload from most common data loggers; website facilities to enter data manually, direct spreadsheet upload, and with phone apps
- Photo input options tagged and annotated
- Data and system monitoring apps on phones and tablets
- Accelerated evaluation and decision-making
- Simplify work flow processes
- Strengthen QA/QC of data and information
- Centralized and secure data, map, document, and photo platform to support a variety of needs
- Strong administrative controls with customizable individual user access and functionality
- Variety of apps simplified to intuitive interfaces for specific functions

Manual readings input directly into iSite® from the field Crenshaw/LAX Transit Project Los Angeles, CA

Frozen Arch for MTA East Side Access, New York, NY

Monitoring Center at TVA Headquarters, Chattanooga TN



Bayonne Bridge, NY/NJ

Representative *iSiteCentral®* Projects

- Bayonne Bridge Upgrade, Staten Island, NY
- Central Artery/Tunnel Project, Boston, MA
- Clough Center at Georgia Tech, Atlanta, GA
- Crenshaw/LAX Transit Project, Los Angeles, CA
- Emory University, Atlanta, GA
- Fall Creek Gorge Bridge, NY
- Hartsfield-Jackson Airport - Underground Train, GA
- I-10 Twin Span Bridge, New Orleans, LA
- I-20 Bridge Abutment, Vicksburg, MS
- I-90 NewBridge, Cleveland, OH
- iLevee Levee Monitoring System, New Orleans, LA
- Kentucky Lock and Dam Lock Replacement, KY
- Michigan DOT State-Wide Bridge Projects, MI
- Monte Pallano Subsidence Monitoring, Bomba, Italy
- MTA East Side Access, New York, NY
- MTA Second Avenue Subway, New York, NY
- North Shore Connector Tunnel, Pittsburgh, PA
- Sakonnet Bridge Replacement, Portsmouth, RI
- Smithland Dam Hydroelectric Plant, KY
- State Farm KDC Office Development, Atlanta, GA
- Storrow Drive Tunnel SHM, Boston, MA
- The Colony at White Pine Canyon, Park City, UT
- Tobin Bridge SHM, Boston MA
- Tunnel beneath CSX Railway, GA
- TVA Dam and Ash Pond Monitoring, TN
- Vernon Avenue Bridge, Barre, MA
- Willow Island Hydroelectric Plant, WV
- Woodrow Wilson Bridge, Washington, DC
- World Trade Center Reconstruction, New York, NY
- Zakim Bridge, Boston, MA

About Geocomp

Geocomp provides comprehensive geostructural design and performance monitoring services to clients across the United States and around the globe. Our professional staff combine in-depth understanding of structural and geotechnical material behavior with the latest in performance monitoring technologies to provide innovative and sound geostructural solutions - resulting in better control of risk and cost of projects.

Our subsidiary company, GeoTesting Express Inc. (GTX), provides state-of-the-art testing facilities to measure the mechanical and physical properties of soil, rock, geosynthetics, aggregate, concrete, and other geo-materials. GTX also provides field testing services to inspect, sample, test, document, and monitor quality on projects.

Geocomp Products manufactures, sells, and supports remote monitoring systems for both static and dynamic applications worldwide that provide web-based GIS access to instrument data used for real-time monitoring of structural performance during construction and operation. It also manufactures automated soil testing systems and custom-designed pavement sensors and load cells used by commercial, governmental, and university laboratories.

For more information:

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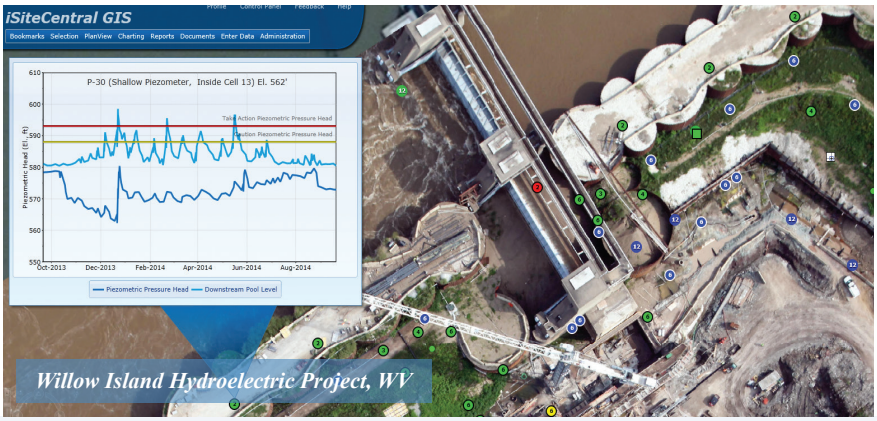

Willow Island Hydroelectric Project, WV

Mobile Monitoring

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