



KEEPING A SHARP EYE ON
MECHANICAL INTEGRITY



Technical Capabilities
and Services

bsisentry.com

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EVOLVING TO MEET THE UNIQUE
NEEDS OF THE INDUSTRY



About Us

The Ultrasound Difference

Ultrasonic Testing is non-destructive. High-frequency sound waves are emitted into one side of a target material. The sound waves are reflected to the emitting sensor producing a precise measurement of material thickness. Not only does this technology assure the highest level of precision and accuracy, but ultrasound is also safe, provides immediate results, and is very cost effective.

The reliability and precision of ultrasound technology, when used in a more automated fashion, eliminates variables that often impact measurement accuracy. Monitoring with ultrasound is mission critical and enables you to work on long-term maintenance planning.

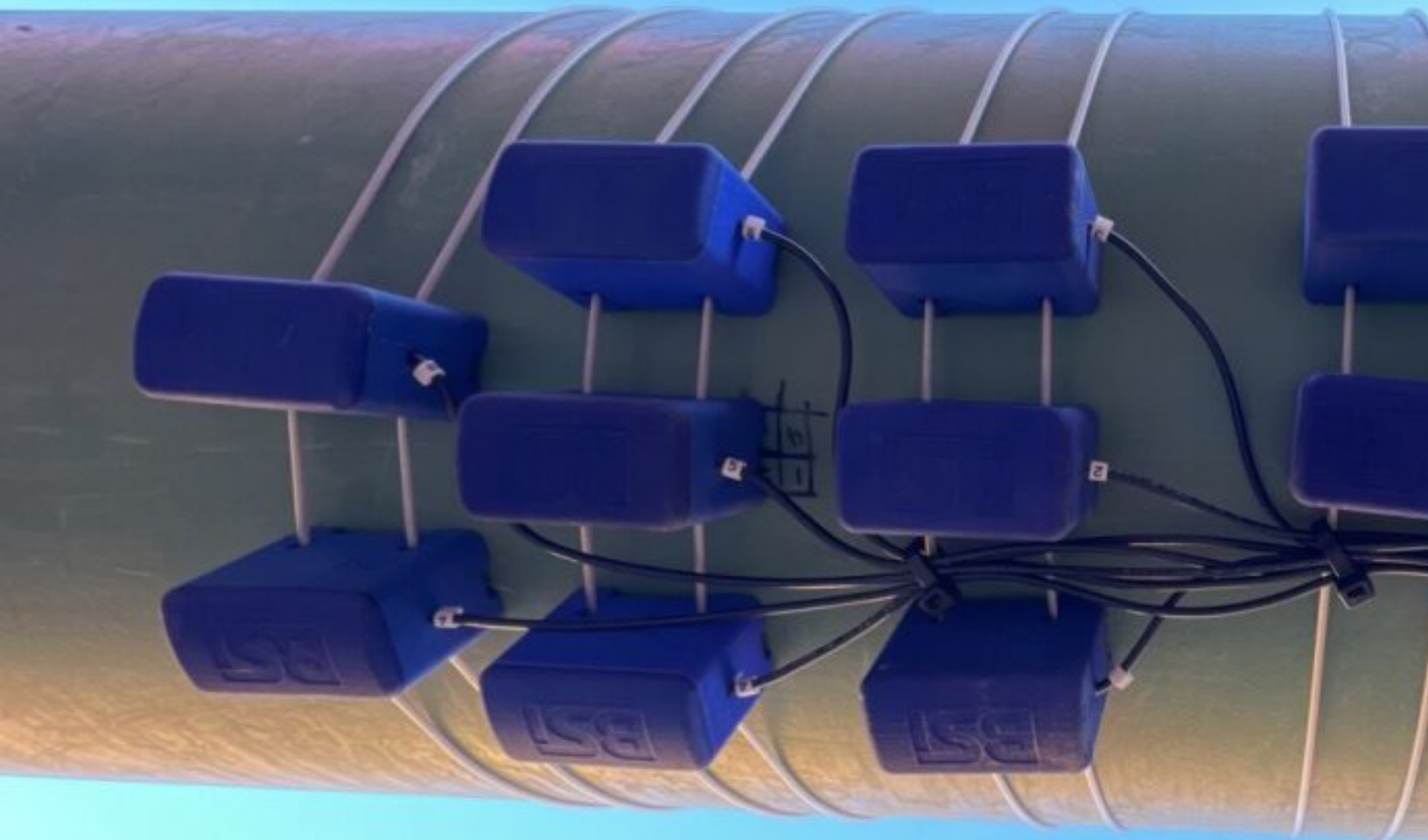


Why BSI?

BSI excels in translating the precision and reliability of ultrasound, previously only found in a laboratory setting, into real-world field environments.

We are experts in the development of unique, rugged ultrasound sensors and "smart" probes as well as the design of signal processing software that enhances and preserves data quality.

BSI has a strong and globally respected reputation for technical excellence and field experience. We provide immediate online data and information access to our customers while working in the background focusing on data integrity.



Eagle Array™



MONITOR AND MANAGE INTERNAL CORROSION

Pipeline carry resources that keep the world running. Maintaining the internal integrity of pipelines is critical for protecting an investment and preventing environmental disasters.

The Eagle Array™ monitors pipelines for internal corrosion with rugged, field-ready sensors installed on the exterior of pipelines for ease of placement and removal.





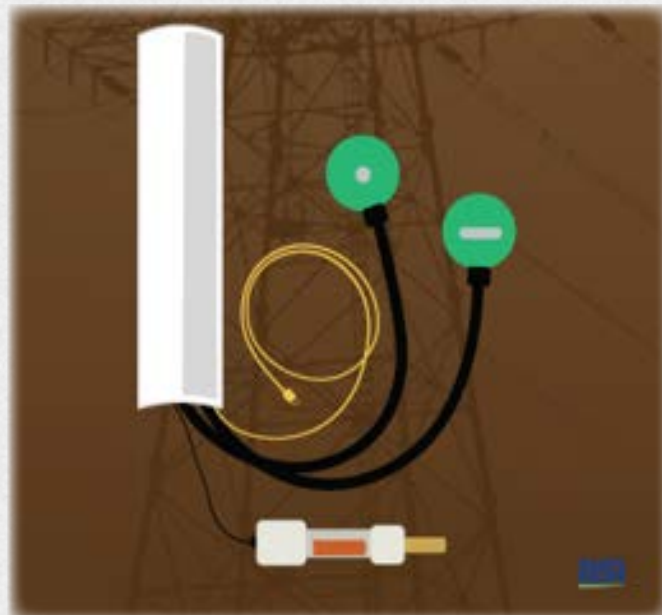
The Owl™



MONITOR EXTERNAL CORROSION

BSI's Owl™ watches over your underground structure. BSI's Owl™ systems measure and monitor changes in structure thickness and CP system effectiveness.

- Remote or on-site data acquisition capability
- Monitors the impact of both DC- and AC-induced corrosion on underground structures





The Falcon™



PIPELINE CASING MONITORING

Trapped moisture, gases, and other contaminants can create a severe corrosive environment inside pipeline casings. The Falcon™ Ultrasonic (UT) Casing Probe is inserted into the interstitial space of the casing and primary pipe to measure corrosion rates.

- Provides actual corrosion rate (MPY)
- Monitored via test station or remote monitoring unit (RMU)
- Scalable UT data collection intervals





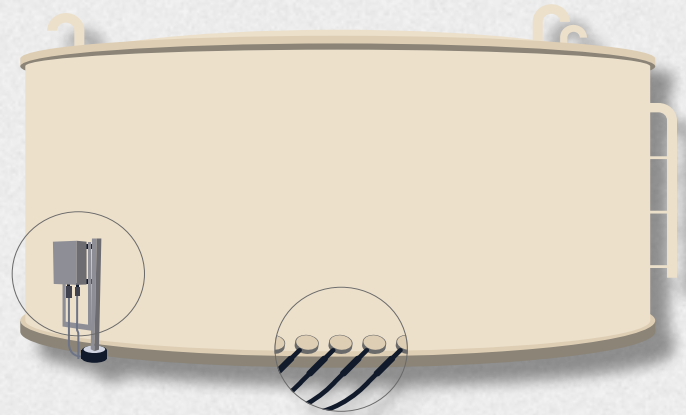
Smart Tank™

STORAGE TANK SOLUTION



Corrosion of bottom-side plates of aboveground storage tanks (ASTs) can threaten the environment, damage infrastructure, and waste product. BSI's Smart Tank™ systems protect your investment by monitoring corrosion of the tank floor in real time.

- Optional in-tank topside corrosion monitoring
- For existing structures or new construction
- Class 1, Division 2 certification





In-Service Tank Robotics

IN-SERVICE INSPECTION EXPERTS

BSI's in-service tank inspection intrinsically-safe (IS) scanners and non-IS scanners are designed to inspect the bottom of above-ground storage tanks without removing the tank from service or personnel entry into the tank.





The Raven™ Smart Bond



Take back control of your bond.

The Raven™ eliminates the damaging effects of stray current discharge by providing a regulated pathway back to its source.

- Prevents accelerated consumption of sacrificial anodes beyond design parameters
- Variable ohm resistor
- BSI smart current blocking switch for back current protection
- Circuit breaker (in case of electrical fault or overcurrent)
- Real time monitoring – Connects to existing BSI User Interface
- Optional permanent reference electrode monitors structure to soil potential on both sides of the bond
- Customer tailored threshold alarms
- RMU health monitoring system





Cathodic Protection Services

COMPLETE CP SOLUTIONS

BSI cathodic protection (CP) systems combine mitigation of corrosion on structures with enhanced capabilities for performance monitoring, data collection, and control. Real-time data is uploaded to BSI's online dashboard to provide constant assurance of a structure's protection.

- Engineering services
- Installation services
- Testing & Evaluation services
- Manufacturer of remote monitoring units, junction boxes, and Raptor™ coupon test stations.
- Condor™ CP System
- Portable reference cells



AC MITIGATION

BSI cathodic protection (CP) systems combine mitigation of corrosion on structures with enhanced capabilities for performance monitoring, data collection, and control. Real-time data is uploaded to BSI's online dashboard to provide constant assurance of a structure's protection.

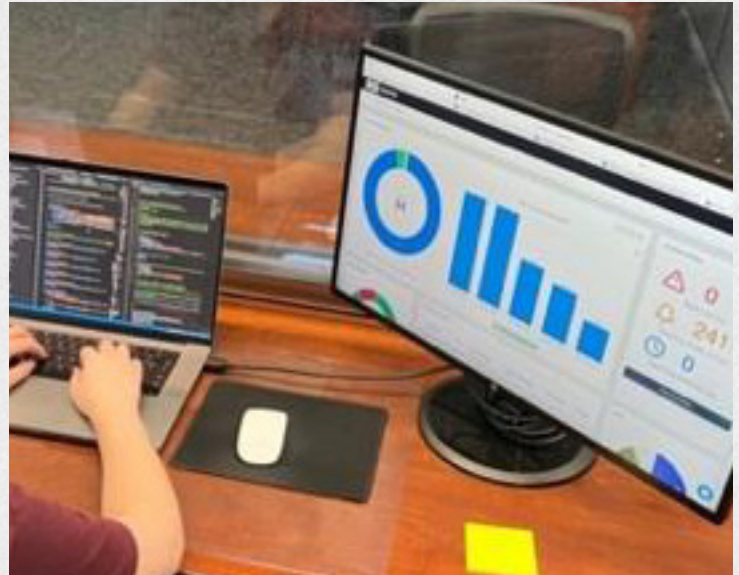




Revolutionizing Ultrasound Technology

CORROSION MONITORING

BSI utilizes ultrasonic technology (UT) to build systems designed for assessing and managing the integrity of industrial assets prone to corrosion. Our rugged, field-tested UT sensors continuously monitor structural integrity. BSI systems are easily installed and real time data is uploaded to our online customer dashboard to provide insight for critical decision-making.



PREDICTIVE ANALYTICS

Continuous Data Monitoring

BSI analysts and statistical algorithms monitor our customer data continuously yielding descriptive trends that serve as predictors of future outcomes. BSI utilizes data science tools and machine learning algorithms to identify potential future outcomes gleaned from historical data and customer feedback.

We use a range of predictive analysis tools to identify and classify patterns in the data while identifying risks to facilitate and repair and migration. integrity risk profiles.

IMPACT™ - AI

IMPACT™ is the heart of a customer's monitoring network. Real time and archived data are reviewed and correlated with process events. Traditional statistical tools are provided to view operating and inspection histories.

Machine learning tools tap into IMPACT's AI libraries to develop mechanical integrity risk profiles.



NDT SERVICES

- Ultrasonic Thickness (UT)
- Magnetic Particle Testing (MT)
- Penetrant Testing (PT)
- Visual Testing (VT)
- Atmospheric Inspection
- Borescope
- Positive Material Identification (PMI)
- Brinell Hardness Testing (BHT)

ADVANCED NDT SERVICES

- Automated Ultrasonic Testing (AUT)
- Phased Array Ultrasonic Testing (PAUT)
- Short Range Ultrasonic Testing (SRUT)
- Guided Wave Inspection (GUL©)
- Time of Flight Diffraction (TOFD)
- Electromagnetic Testing (ET)
- Alternating Current Field Measurement (ACFM)
- Soil Analysis
- 3D Laser Scan Services

TANK INSPECTION SERVICES

- AST Inspections (API 653)
- Out-of-Service
- 3D LiDAR Tank Strapping
- 3D Berm Capacity Analysis and Liquid Flow
- Fitness for service

PIPELINE INSPECTION SERVICES

- API 570
- ILI collaboration and post-ILI verification
- Corrosion and Erosion Mapping
- Bolt Integrity Assessment
- Laser Imaging Detection and Ranging (LIDAR)



QUALITY

The principal factor in the successful performance of Berkeley Springs Instruments, LLC (BSI) is the incorporation of quality into all our services, products, and equipment.

Our policy is to always attain, and wherever possible, exceed the standards expected by our customers. This can only be achieved by developing, establishing, and maintaining a Quality Program that encompasses all our personnel and activities.

The purpose of BSI's Quality Program is to ensure that all our products, services, and equipment meets or exceed the requirements specified by our customers, by appropriate controlling documents and as set forth by corporate management.

BSI's Quality Manager is assigned the responsibility and the authority to organize, maintain and administer the Quality Program and to assure its effective implementation. All BSI employees are given the responsibility and authority to identify problems, implement solutions to those problems, and to control further processing of affected products or services. This includes preventing shipment of non-conforming, deficient or unsatisfactory materials or products, until satisfactory corrective action has been taken.

Each department is required to implement the Quality Program in its area of responsibility. The Engineer/Project Manager shall resolve any conflicts which cannot be resolved by the Quality Manager and Manufacturing/Department Managers. Resolution of such conflicts shall always be in accordance with the requirements of the controlling documents and BSI's Quality Assurance Manual.

SAFETY

Ensuring safety for our employees and customers inspires BSI designs and practices. Many BSI products are safer alternatives to traditional methods. We implement and promote safety programs throughout all BSI operations to ensure safety compliance within our facilities and when working in the field.

CODE COMPLIANCE

BSI maintains procedures that are compliant to industry standards and regulatory codes. We follow inspection and reporting guidelines for pipelines and petrochemical plants, as well as refining and chemical facilities.



Avetta





*Revolutionizing
Ultrasound Technology*

VISION

BSI specializes in the design and fabrication of innovative ultrasonic transducers, processing software and multi-parameter sensor networks for monitoring the integrity of tanks, pipelines, and other industrial assets. We bring innovative technologies to the market that provide a positive environmental benefit, protect personnel, and enhance current and future energy resources while helping our customers perform in a competitive environment.

BSI invests heavily in research & development. We explore opportunities to improve our suite of mechanical integrity sensors and proprietary software with emphasis on ease of use and enhanced data security.

Our products are designed and manufactured in Frostburg, Maryland. BSI has locations on both US coasts, the Mid-West, and along the Gulf of Mexico strategically placed to serve our efforts in mechanical integrity wireless communication solutions.



BSI facility in Frostburg, Maryland



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