GEOSENSE

COMPANY OVERVIEW

WWW.GEOSENSE.COM

WHO WE ARE

Engineered for reliability. Trusted worldwide.

For over 30 years, Geosense has designed and manufactured geotechnical and structural monitoring instrumentation for infrastructure and engineering projects worldwide.

Combining industry-leading expertise with end-to-end in-house design and manufacturing, we deliver reliable, high-performance monitoring solutions.

From product selection to installation support and ongoing technical assistance, we provide the highest level of insight and confidence needed to make informed engineering decisions.

Our commitment to innovation, quality and customer service has been recognised with an award for international trade, reflecting our reputation as a trusted global partner.

WHY GEOSENSE?

PROVEN PERFORMANCE

Our instrumentation is trusted on some of the world's largest engineering projects.

DESIGNED & MANUFACTURED IN-HOUSE

From concept to production, in-house control ensures consistent quality, fast lead times, and dependable performance.

EXPERT TRAINING

Build confidence and expertise with flexible training delivered online, on-site, or at the Geosense Academy.

CUSTOMER FOCUSED SUPPORT

Expert technical guidance and dedicated account management at every stage of your project, including long-term after sales support.

GLOBAL REACH, LOCAL RELIABILITY

Supplying projects in over 130 countries through a dedicated logistics team and recognised with a Queen's Award for International Trade.

WHY MONITORING MATTERS

You can't manage what you can't measure.

Whether it's monitoring ground movement, structural performance, or environmental conditions, reliable data is essential for making informed engineering decisions.

Monitoring provides the insight needed to:

1 IMPROVE SAFETY

Identify potential issues early, helping to improve safety and reduce risk.

2 VALIDATE DESIGNS

Verify that designs perform as intended under real-world conditions.

3 OPTIMISE CONSTRUCTION

Enable proactive project management by responding to changing site conditions.

4 MANAGE RISK

Reduce uncertainty with accurate, evidence-based data.

5 ENSURE ACCOUNTABILITY

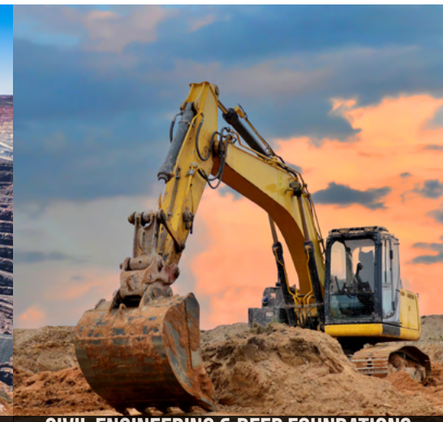
Provide a clear, auditable record of project performance.

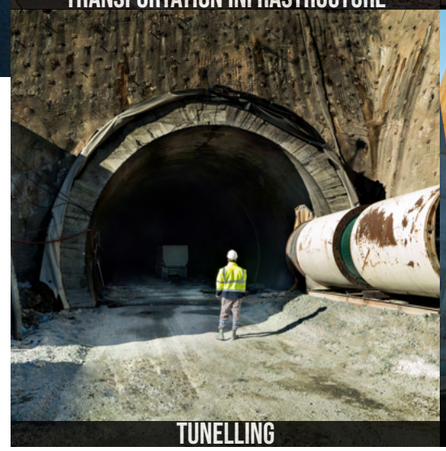
MARKETS WE SERVE

Geosense delivers reliable, high-precision monitoring solutions for geotechnical and structural projects above and below ground.


TRANSPORTATION INFRASTRUCTURE


MINING


CIVIL ENGINEERING & DEEP FOUNDATIONS


TUNELLING


INFRASTRUCTURE & ASSET MONITORING


GEOHAZARDS

The key parameters we monitor include:

- Pressure
- Displacement
- Tilt
- Load
- Strain
- Settlement
- Convergence
- Temperature

Explore our instrumentation portfolio

GROUND MOVEMENT MONITORING

Measure. Monitor. Mitigate.

Ground movement monitoring provides accurate, reliable data on displacement, deformation, settlement, and stability - helping engineers manage risk, protect assets, and maintain the performance of critical infrastructure.

Our key instrumentation includes:

Inclinometers

Measure lateral ground movement and deformation in soil, rock, embankments, and retaining structures.

Essential for identifying instability in slopes, excavations, tunnels, and earthworks.

The Geosense inclinometer range includes Portable MEMS Inclinometers, In-Place Inclinometers (IPI), and Multi-Profile Inclinometers, supporting both project-based and long-term monitoring applications.

Extensometers

Measures movement within soil and structures to track settlement, heave, convergence, and deformation over time.

Applications include tunnel and mine subsidence, excavation effects and slope stability.

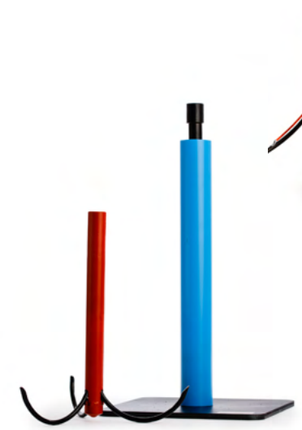
Geosense offers a range of manual and automated extensometers, including Borehole Rod and Magnetic systems.

Designed for flexibility, they can be read using portable devices or integrated with dataloggers, wireless nodes, and gateways to deliver reliable automated monitoring solutions.

Settlement Monitoring Systems

Monitor vertical ground movement in embankments, foundations, reclaimed land, and earth structures, providing the data you need to verify design, track performance, and safeguard long-term asset integrity.

From simple Rod & Sleeve systems to advanced Vibrating Wire Liquid Level systems and Settlement Profilers, Geosense offers a complete range of settlement monitoring solutions with both manual and fully automated data collection options.



STRUCTURAL MONITORING

Observe. Assess. Protect.

Structural monitoring provides the data needed to track movement, strain, tilt, and deformation, helping engineers assess performance, identify potential issues early, and protect critical assets throughout their lifecycle.

Our key instrumentation includes:

Vibrating Wire Strain Gauges

Monitor strain in concrete, steel, and reinforced structures to understand structural behaviour, and verify performance.

Geosense offers a complete range of Vibrating Wire Strain Gauges, including Surface Mount, Embedment, Spot Weld, Strand Anchor, Sister Bar, and Rebar Strain Meters.

Designed for reliable, long-term performance, they deliver accurate strain measurements in both temporary and permanent monitoring installations.

Crack & Joint Meters

Measure displacement across cracks and joints in concrete, steel, and rock structures to monitor movement and performance.

Geosense offers a range of 1D and 3D Crack Meters, along with joint meters for mass concrete structures including dams, foundations, slabs, abutments, and shaft linings.

Measurements can be taken manually using portable readouts or integrated into automated monitoring systems for continuous data collection.

Tilt Sensors

Measure rotation, inclination, and differential movement to monitor structural alignment, stability, and long-term performance.

Using advanced MEMS technology, Geosense Tilt Sensors detect minute changes in inclination relative to gravity, delivering highly accurate data on structural movement and deformation over time.

Our comprehensive range includes In-place Tiltmeters, Wireless Tilt sensors, Portable Tiltmeters, Submersible Tiltmeters, Tilt Beams, Pendulum Systems, and a 2-in-1 Laser Distance & Tilt Meter, providing flexible monitoring solutions for a wide range of applications.

GROUND WATER & ENVIRONMENTAL MONITORING

Monitor. Assess. Predict.

Understand what's happening below the surface. Monitor pore water pressure, groundwater conditions, flow, and temperature to assess conditions, identify risks, and make confident engineering decisions.

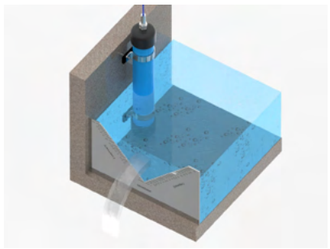
Our key instrumentation includes:

Piezometers

Monitor pore water pressure in soil, rock, and concrete to assess groundwater conditions, stability, and structural performance.

Essential for evaluating effective stress, seepage, slope stability, and hydraulic behaviour.

Geosense offers a comprehensive range of piezometers, including Vibrating Wire, Multi-Point, Strain Gauge, Pressure, Drive-In, and High Temperature Models.



Flow Sensors

Monitor water flow to evaluate seepage, groundwater discharge, and drainage performance.

Geosense Flow sensors are available with or without V-Notch Weirs and provide reliable seepage monitoring for dams and accurate flow measurement in reservoir feeder streams.

Geosense V-Notch Weirs and Tanks are engineered for precise flow measurement in open channels, streams, and tanks, supporting effective dam safety management and water resource monitoring.

Temperature Sensors

Measure temperature in concrete, soil, rock, water, and ice to support accurate interpretation of geotechnical and environmental conditions.

Geosense Vibrating Wire Temperature Sensors measure internal temperature in concrete, soil, rock, and water, while our Thermistors deliver accurate, long-term monitoring in harsh geotechnical environments.

Typical applications include concrete curing, seasonal ground temperature variation, and geothermal borehole heat exchanger profiling.

LOAD & PRESSURE MONITORING

Measure. Monitor. Understand

Measure loads, stresses, forces, and earth pressures to understand how structures and ground systems are performing under real-world conditions.

Our key instrumentation includes:

Load Cells

Measure loads in rock bolts, anchors, and struts to verify structural performance and ensure stability.

Anchor Load Cells suit a wide range of diameters and reduce eccentric loading, offering Vibrating Wire, Bourdon, and Analogue outputs for flexible integration.

Solid load cells are used in pile testing and strut loading, with strain gauges for improved accuracy.

Pressure Cells

Measure total stress in soil, rock, and concrete, including at key interfaces such as foundations, abutments, and retaining structures, to assess load distribution and structural performance under real conditions.

Geosense Total Pressure Cells are used in soil and concrete applications, while NATM Pressure Cells are designed specifically for tunnel linings and underground structures.

Data can be collected via portable readouts or integrated into automated logging systems.

AUTOMATED MONITORING & DATA MANAGEMENT

Capture. Visualise. Control.

Delivering complete monitoring solutions from field to office, Geosense's Automated Monitoring & Data Management systems capture, transmit, and visualise data to support faster, more informed decision-making.

Our key instrumentation includes:

Readouts

Handheld devices for quick, accurate field measurements, allowing direct retrieval of sensor data during site visits.

Geosense offers a range of Portable Readouts that convert sensor signals into engineering units for easy interpretation on site.

Compatible with Vibrating Wire, Analogue, and Digital Outputs, they also include internal data storage for efficient data handling in the field.

Data Loggers

Automated systems that capture and store data from multiple sensors for reliable long-term monitoring without regular site access.

Geosense data loggers support vibrating wire, analogue, and digital inputs and are available in Single or Multi-Channel configurations.

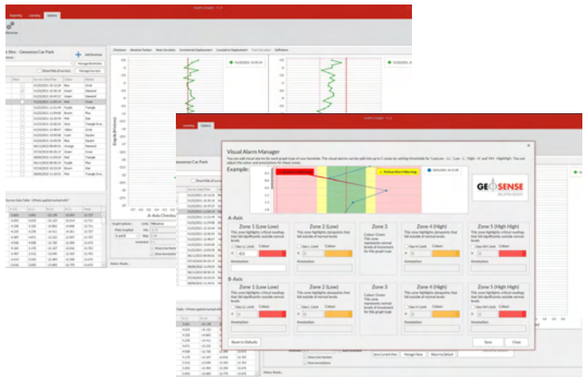
With optional communication modules, they enable remote access, configuration, and real-time data transfer via radio, GSM, or GPRS.

Wireless Sensor Networks

Cable-free monitoring solutions enabling reliable, real-time data collection from remote and challenging locations while reducing installation time and cost.

Geosense offers both Star and Mesh network architectures to suit a wide range of project requirements.

Supporting vibrating wire, analogue, and digital sensors, these systems provide flexible monitoring where traditional cabling is impractical due to distance, access restrictions, or physical barriers.



Data Visualisation Software

Geosense data visualisation software provides near real-time access to monitoring data from a wide range of sensors and data loggers, enabling analysis through intuitive Graphs, Profiles, and Maps to support clear, actionable decision-making.

Available as both web-based and desktop platforms, it ensures seamless access to project data anytime, anywhere.

Geosense Connect

Simply scan the QR code on your Geosense sensor to instantly view calibration records and product data through Geosense Connect.

Run zero readings and confirm your sensor is ready for use - all from your phone or tablet.

CASE STUDIES

Halilağa Copper Mine, Turkey

Safeguarding Critical Tailings Infrastructure

At the Halilağa Copper Mine, three tailings dams and associated reservoirs are continuously monitored to ensure long-term stability and safe operation.

A comprehensive geotechnical monitoring system was installed to track deformation, pore water pressures, and structural behaviour across key areas of the site.

The system provides continuous insight into ground and structural performance, enabling early detection of movement, pressure changes, and potential risks.

This real-time understanding supports proactive dam safety management, strengthens regulatory compliance, and helps ensure safe, efficient operation of critical mining infrastructure.

Instrumentation installed:

- ✓ In-Place Inclinometers (IPI & IPI-X)
- ✓ Borehole Rod Extensometers
- ✓ Vibrating Wire Piezometers
- ✓ Crack Meters
- ✓ Total Earth Pressure Cells
- ✓ Thermistors
- ✓ Strain Gauges
- ✓ Weir Monitoring System
- ✓ Pendulum System

Outcome

Continuous, real-time monitoring that enhances dam safety, supports informed decisions, and protects critical infrastructure.

Potomac River Tunnel, Washington D.C, USA

Monitoring a Major Urban Tunnelling Project

The Potomac River Tunnel is a key part of DC Water's Clean Rivers Project, designed to capture sewer overflows and reduce untreated discharges into the Potomac River.

Extending 5.5 miles and up to 100 ft below ground, the tunnel passes close to Washington, D.C.'s iconic landmarks and monuments.

Comprehensive geotechnical monitoring was required to track ground and structural behaviour throughout excavation in soft ground and hard rock conditions.

The system provided continuous insight into groundwater pressures, deformation, lateral movement, and structural performance, helping engineers manage risk and verify construction impacts during tunnelling operations.

Instrumentation installed:

- ✓ In-Place Inclinometers (200+)
- ✓ Borehole Rod Extensometers
- ✓ Vibrating Wire Piezometers
- ✓ Crack Meters

Outcome

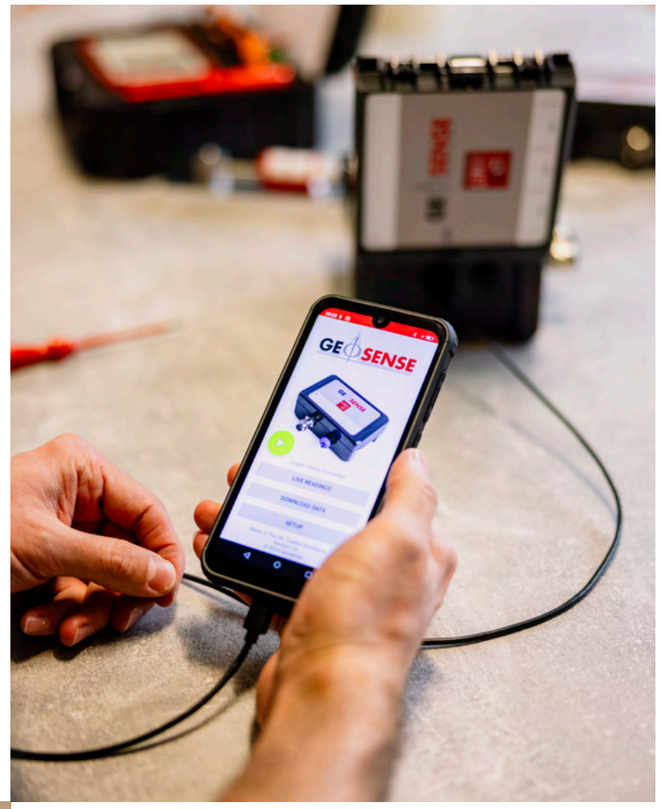
Reliable monitoring data supported safe tunnelling operations, informed engineering decisions, and helped protect surrounding infrastructure and landmarks throughout construction.

END-TO-END DESIGN & MANUFACTURING

Designed in-house. Manufactured in-house. Trusted worldwide.

At Geosense, all of our instrumentation is designed and manufactured in-house.

From initial concept and design through to production, testing, and delivery, every stage is managed by our experienced engineering and manufacturing teams, ensuring the highest standards of quality, performance, and reliability.

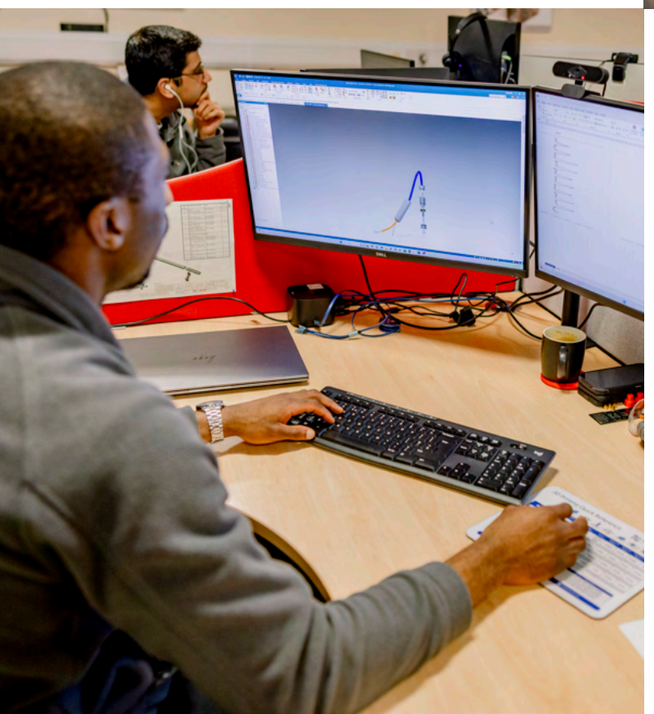


Design Delivered

Our dedicated engineering team puts the end user at the centre of every design.

Using advanced 3D CAD software, we continuously refine and enhance our products to deliver high-performing, reliable solutions.

We also develop bespoke instrumentation tailored to specific customer requirements.



Take a Virtual Tour

Scan the QR code for a virtual tour of our manufacturing facility.

World-Class Production

Our agile manufacturing operation is designed to support the demands of modern infrastructure projects.

By combining advanced production capabilities with LEAN and Just-in-Time (JIT) principles, we deliver high-quality instrumentation with speed, precision, and reliability.

Whether supporting major international infrastructure programmes or specialist local projects, we bring the same commitment to quality, innovation, and responsive service - providing dependable lead times and solutions our customers can trust.

Our in-house capabilities include:

- ✓ CNC Machining
- ✓ Automated Welding
- ✓ GeoSwage® production technology
- ✓ Mechanical and electrical assembly
- ✓ Calibration and testing
- ✓ Quality assurance and inspection

The quality of their fabrication is unsurpassed in the market, particularly their equipment which easily achieves its specifications, leaving no doubt for our end users on the precision and accuracy of their monitoring.

William Ward, PCTE

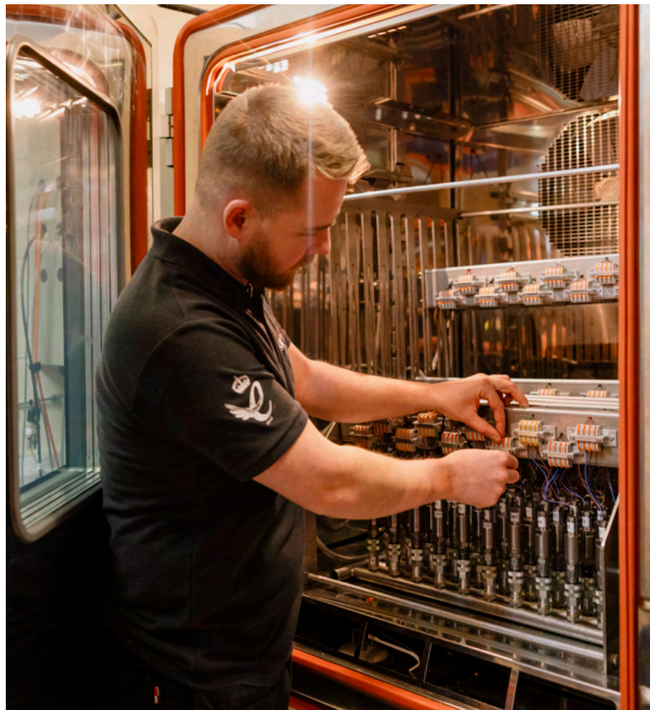
PCTE

Quality you can trust

All of our instrumentation is manufactured under **ISO 9001** quality management standards.

Built to last

All Geosense products are backed by a **2-year warranty**, providing long-term confidence in performance and reliability.



TECHNICAL SUPPORT

Expert support. Trusted advice. Data you can rely on.

Every monitoring project is unique. That's why we offer a comprehensive range of technical support services to help you turn your monitoring data into meaningful insights.

Our experienced pre-sales engineers and technical support specialists are with you every step of the way - from selecting the right instrumentation and delivering installation training to supporting data interpretation and analysis.

Whether you're in the office or on site, assistance is available via:

Telephone | Email | Live Chat | Video Call

What really sets Geosense apart is its technical support during equipment selection as well as during project implementation. Its team is always ready to help, providing fast and effective support when needed.

Tomasz Zietkowski,
Business Development Manager

GEO INSTRUMENTS

TRAINING AT THE GEOSENSE ACADEMY

Sharing expertise. Building skills. Empowering success.

The Geosense Academy reflects our commitment to sharing decades of geotechnical monitoring expertise. Training is available at our Academy, on-site, or online, and can be tailored to your specific needs.

Our training programmes help users get the most from their instrumentation, ensuring accurate data collection, analysis, and interpretation for greater project insight.

Our courses can be tailored to suit different levels of experience, technical knowledge, and professional roles.

Whether you are a consultant, technician, installer, experienced engineer, or a graduate engineer beginning your career, the Geosense Academy provides the practical skills, technical expertise, and confidence needed to succeed in the field.

It was an efficient way of enhancing the technical knowledge of our teams, enhancing their ability to react efficiently to issues on site and provide a more effective service for our clients.

Alex Bond,
Operations Manager

SOCOTEC

WORLD-CLASS LOGISTICS

Expert planning. Global delivery. Project confidence.

Our experienced logistics team manages every aspect of the shipping process, from documentation and packaging to customs clearance.

Their expertise ensures compliance with international regulations, minimises delays, and gives you confidence that your equipment will arrive on time - allowing you to focus on your project.

Working with leading global logistics partners, we deliver instrumentation safely and efficiently to project sites around the world, wherever and whenever it is needed.

Our commitment to customers around the world earned Geosense a prestigious award for international trade in 2022

> *On a recent large project, Geosense played a crucial role in ensuring all equipment was prepared and delivered to site without delay, which kept our workflow on track and eliminated potential downtime.*
>
> Aaron Solera,
> Project Manager
>
> Murphy GEOSPATIAL A WOOLPERT COMPANY

GLOBAL SUPPLY NETWORK

Global Reach. Local Support. Trusted Expertise.

With our headquarters and manufacturing facility based in the UK, supported by a North American office, Geosense provides expert guidance and technical advice wherever your project is located.

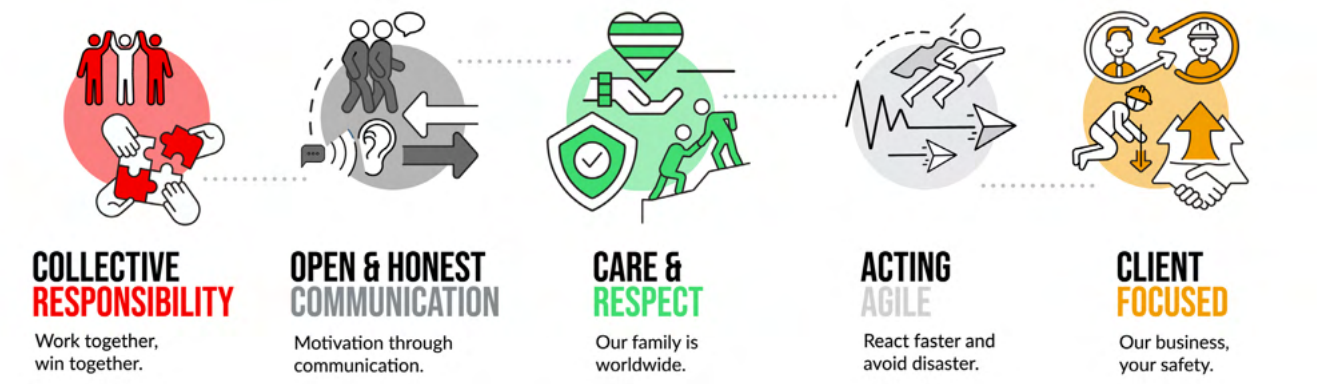
Supported by a network of more than 40 trusted partners and distributors worldwide, we also offer responsive local expertise and on-the-ground support whenever and wherever you need it.

40+
International Partners & Distributors

100+
Countries Served

OUR VALUES

The values that define our business guide every decision we make, helping us build lasting success through respect, care, and a commitment to outstanding customer service.



GET IN TOUCH

To learn more about how Geosense can support your next project, get in touch to arrange a meeting.

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