Profile

GEOxyz is an independent company, specialising in hydrographic, geophysical & geotechnical surveys. Through our local offices and representatives, we provide our services to Authorities, the Dredging, Marine construction & Offshore industry and also to consulting companies and research centres. We work throughout Europe, from Russia to the Mediterranean and provide specific project support all over the world.

GEOxyz employs its own highly professional and specialised staff, advanced technologies and state-of-the-art survey systems. GEOxyz employs more than 80 personnel and owns a fleet of dedicated survey vessels. Through continuous training and investment in new equipment and vessels, GEOxyz is able to respond to the most demanding requests.

Mission

GEOxyz’s mission is to create value for our client’s international projects based on enhanced data acquisition in the “on and off shore” environments, combining state of the art equipment, people and in-house solution capability. GEOxyz are committed to ensuring zero harm to people, equipment and the environment and conducting business in a responsible and ethical manner.

Vision

GEOxyz’s vision is to provide innovative solutions and tools to support the increasing demand in high level data acquisition and processing for our “on and off shore” client base. GEOxyz will become the reference and full service supplier in this high standard market through a strong focus on quality and brand awareness.

Company Values

Business  • Customer focus
Assets   • State of the art equipment
People   • Professionalism and leadership
QHSE    • Safety integrity and respect for our people and environment
Finance • Shareholder value
QHSE

GEOxyz has a fully operational Quality, Health, Safety & Environmental (QHSE) Management System in place, this is to ensure it guarantees or exceeds its Client’s requirements at a minimum, as well as attaining relevant legal standards.

The system has documented procedures in place to ensure quality acquisition for the collection, processing, validation of data and that the final reporting meet’s its client’s requirements.

GEOxyz’ philosophy starts from “Plan-Do-Check-Act” and as such follows the principles of continuous assessment and improvement as described by Deming (Deming Circle). Overall, GEOxyz’ commitment is to perform its projects in a safe environment and to respect the environment at all times.

GEOxyz have successfully completed and incorporated the following international certifications into their Integrated Management System (IMS), ISO 9001, OHSAS 18001 and ISO 14001.
• Site Investigations
• Construction Support
• Operations & Maintenance Services

Oil & Gas

Resources

- Metocean monitoring
- Geotechnical Sampling
  - Vibrosore
  - CPT
  - Grab
- ROV Inspections
- Seismic
  - Boomer / Sparker
  - UHR3
- Scour Monitoring

GEOxyz respects QHSE requirements following these standards: ISO 9001 / ISO 14001 / VCA Safety / ISM / ISPS / OHSAS 18001
HYDROGRAPHIC & GEOPHYSICAL SERVICES

Bathymetric Surveys

GEOxyz performs Hydrographic surveys for Local Authorities, Offshore windfarms, the Dredging & Marine construction industry and consultants. Once data is acquired, it must undergo substantial processing before it can be used to produce precise bathymetric charts. GEOxyz strives to reduce processing time while maintaining strict quality controls, in order to provide our clients with accurate information as quickly as possible. To ensure the highest degree of accuracy, GEOxyz conducts aggressive review’s, verification and certifications of hydrographic data. In order to sustain professional expertise throughout the process, starting at the very beginning of the data acquisition process on the water, we deploy expert hydrographers on our survey vessels.

High resolution charts can be generated for:
- monitoring purposes,
- volume calculations,
- morphological studies, etc.
Geophysical surveys

Detailed geophysical surveys and assessments are a critical requirement to de-risking the cost-effective design of marine structures and subsea installations. GEOxyz uses several measuring techniques to collect data of the seabed surface and sub-surface.

Side scan sonar surveys

A Side Scan Sonar system is used to efficiently create an image of large areas of the sea floor. GEOxyz uses this tool for mapping the seabed for a wide variety of purposes, including the creation of nautical charts, detection and identification of underwater objects and bathymetric features.
Seismic

GEOxyz offers full seismic processing and reporting to integrate into the analogue geophysics. By combining both seismic and analogue datasets GEOxyz deliverables include geo-hazard reporting and seismic interpretation for Oil and Gas clients, including shallow gas risk assessment for rig emplacements. From offshore acquisition (of 2DHR and UHR) including online Data QC through to office processing, interpretation and hazard identification GEOxyz supplies amplitude extractions, ribbon plots, time slices, isochrons and interpreted seismic sections.
UXO, which is the common abbreviation for unexploded ordnance, are explosive devices such as bombs, bullets, mines and artillery shells. These items are often hazardous and at risk of detonation even though they may have been dormant for decades. Typical projects which may require Marine UXO surveys include the construction of windfarms, subsea cables, pipe laying projects, oil, gas and mineral exploration and capital dredging projects.

UXO Classification & Identification

GE0xy2 is an experienced survey company and can provide all solutions as to the survey and data processing for UXO surveys. This includes magnetometric survey, side scan sonar and sub bottom profiling including the support as to the clearance of UXO on site. This support is provided true our diving support vessels and ROV systems.
GEOTECHNICAL SERVICES

GEOxyz has responded to the growing demands of its clients, for integrated geophysical and geological data acquisition. GEOxyz operates its own suite of geotechnical coring and sampling equipment. Seabed and subsoil sampling provides the geological samples required for geotechnical testing for engineering design as well as to ground truth geophysical survey results. Soil sampling also provides material for geochemical analysis for both exploration and environmental purposes.

GEOxyz successfully operates a number of seabed sampling and coring systems including: Vibrocore–shallow coring, Boxcorer, Grab samplers, Pistoncorer, Mudsampling

Van Veen Grab

GEOxyz boxcorers are designed to take undisturbed samples from the top layer of the seafloor. It can be used for most types of sediment. Operating the standard box corer is relatively straightforward. When the frame reaches the seafloor, a weight is taken off the hoist cable and the trigger mechanism releases the Cylinder-shaped core box. The box will then penetrate the seafloor to a maximum of 50 centimeters as a result of its own weight.

Mud Sampling

GEOxyz’ sludge and sediment samplers contain undisturbed samples from non-cohesive materials, including underwater sediment from shallow lakes, streams and various types of impoundments.

Vibrocore

Piston Corer

GEOxyz uses a piston corer to take samples from soft, cohesive soils. Penetration of the sea-floor is achieved by gravity only. With a purpose-built trigger mechanism, the actual distance of free fall towards the seafloor can be adjusted.
CPT

Cone Penetration Testing (CPT) determines sub-surface stratigraphy and characterises the materials present; it provides geotechnical parameters and data for direct geotechnical engineering and design.

Nautical bottom surveys

GEOxyz uses ‘DensiTune’ & ‘RheoTune’ to monitor the nautical bottom. In many ports, the monitoring of the nautical bottom with standard acoustic methods is not always the best solution. In “muddy” areas a combination of survey techniques (acoustic measurements & density / shear strength measurements) are required to determine the ‘nautical bottom’.
R.O.V. Operations

- Cable & pipeline detection
- Route surveys
- Inspection of underwater constructions
- Dive support
- Monopile inspections

**DRONE inspections**

GEOxyz’ Unmanned Aerial Vehicles (UAV) platforms can provide access to areas that are too difficult or too risky to send your team into. These services can dramatically reduce your risk exposure in a “working at height” situation and by altering the economics of these inspections, can enable you to do them more frequently.

A Drone inspection has a record, the output from the camera or sensor payload. These can be stored for future reference can also be a key enhancement to your inspection regime.

GEOxyz’ expertise extends to surveying, environmental consultancy, GIS and remote sensing enabling us to produce aerial surveys with the very detailed high quality images needed for construction, mapping, environmental monitoring. These aerial surveys are also a key asset for flood management and other water industry related issues.
Dataprocessing, Charting & Reporting
Using our expanding fleet and our expert teams, GEOxyz delivers support & survey services throughout all stages of a project (design, construction and maintenance) by conducting seabed mapping and inspection services. GEOxyz offers an integrated geophysical package as well as ROV services for site surveys, cable route surveys, pipeline inspections and Offshore construction monitoring.

GEOxyz personnel analyses, evaluates and visualises the data, to provide you with all the information you need. Our detailed survey findings are processed, interpreted and presented in digital formats, charts and reports. Through long term agreements, our clients take advantage of a high quality and efficient service, using our survey specialists, vessels and crew. Our customer focus and client relationship offers improved time and cost efficiency, with considerable savings to all our clients.
Riegl
Mobile & Static lasercanning

GEOxyz uses a “Riegl VZ-400 laser scanner” suited for mobile 3D mapping applications. In order to register scan data acquired from moving platforms, such as boats, road and off-road vehicles, the laser scanner is supplemented by position and attitude sensors, for example GPS and IMU.
ENVIRONMENTAL SERVICES

Current & Wave measurements

GEOxyz provides high precision Acoustic Doppler Current Profiler (ADCP’s) and Wave measurements for estuary, coastal and offshore applications.

Environmental & Metocean monitoring

GEOxyz has experience in performing all types of environmental surveys ranging from benthic and water sampling to digital video and still photography operations. GEOxyz further conducts surveys to determine the thickness of possible contaminated underwater areas and follows-up the progress of the clean-up. Cleaning-up environmental black spots demands a precise and strict project approach.
Dredge registration systems

GEOxyz provides rugged and portable dredge registration systems for hopper dredgers, cutter dredger, backhoe dredgers, cable cranes. By use of our own developed Power over Ethernet motion sensors & GNSS receivers all sensors can be remotely configured and tested to achieve centimeter accuracy.

GEOxyz portable dredge registration system gives the ability to the customer to easily transfer a dredge registration system between several dredgers without the need of calibration. Pre-calibrated sensors are mounted on each dredger while the GNSS receiver and controller are interchangeable between several dredgers in order to make maximum usage of the system.

Aside visualization of the process also registration is performed of the dredged / dumped material in order to have a real-time update of the sounding grid.
Offshore & nearshore positioning

GEOxyz positioning services provides real-time centimeter accurate positioning of any type of off-shore or near shore operation. Jackup barges are positioned in into position real time. The position of different barges can be monitored in real time and a copy of visualization is sent to the bridge of the tug boat in order to assist the movement.

Pile positioning

GEOxyz uses in-house software in combination with total station and accurate motion sensors and GNSS receivers in order to measure pile positions from a moving barge to less than 10cm accurate. Movements during the piling process are constantly monitored in real-time in order to achieve exact positioning.

Underwater positioning

Salvage

Asphalte Mats Positioning
GEOxyz provides topographic surveying services. This involves the production of data & maps which are true to scale. Fully automated and computerised data capture with the correct coding enables surveys to be easily processed onto the correct layers on return to office, thereby shortening survey turnaround times. GEOxyz surveyors are experienced in carrying out small/medium topographic surveys for property developers, utility companies through to larger surveys for proposed roads, pipelines, river surveys and other major projects.

Drone

GEOxyz’ expertise extends to surveying, environmental consultancy, GIS and remote sensing enabling us to produce aerial surveys with the very detailed high quality images needed for construction, mapping, environmental monitoring. These aerial surveys are also a key asset for flood management and other water industry related issues.
GPS
The Trimble R6 receiver is a very precise and reliable GPS system, vital ingredients for precision topography. The Superior tracking feature on the RTK enables our topographers to go where no topographers have previously gone!

Total Station
GEOxyz topographers use the Trimble S6 Total station. This system offers a more flexible way of working. Thanks to the refined technique and large scale of possibilities, GEOxyz topographers are able to deliver the most accurate data without delay.

Monitoring XYZ, Total Station, Vibration monitoring
We undertake monitoring surveys to identify movement or deformation in any environment using precise digital levels, movement detectors, precision survey instruments and high accuracy reflectorless total stations.
**VESSELS: “A vessel for every task”**

GEOxyz' highly skilled personnel are supported by a fleet of dedicated vessels offering clients the most comprehensive range of solutions. Our specialist service vessels can safely and efficiently respond to your needs, including:

- Crew Transfer Vessels: the most cost effective transport and access method, used at most of our offshore sites
- Survey Vessels: specially adapted to accommodate survey services
- Service Operation Vessels: combining tower access, storage and accommodation
- Flotels: offering longer-term accommodation as well as storage
- Trailerable vessels / Containerised vessels / High Speed assistance vessel.

**Geo Ocean III**

- Overall Length: 77.30m
- Width: 18m
- Draught: 4.80 - 6.10m
- Maximum Speed: 11 knots
- Licenced for: 48 passengers & 8 crew
- DNV-GL
- Unrestricted Navigation

**Geo Ocean II**

- Overall Length: 39.95m
- Width: 9.45m
- Draught: 5.30m
- Speed: 0 - 14 knots
- Licenced for: 23 passengers & crew
- DNV-GL
- Unrestricted Navigation

**Geo Ocean IV**

- Overall Length: 41.90m
- Width: 5.20m
- Draught: 5.20m
- Cruising Speed: 9 knots
- Licenced for: 21 passengers + 6 crew
- DNV-GL
- Unrestricted Navigation

**Geosurveyor XI**

- Overall Length: 21.10m
- Width: 6.40m
- Draught: 2.00m
- Cruising Speed: 11 knots
- Licenced for: 12 passengers + 2 crew
- MCA Cat 2 - 60 Miles
VESSELS

Geosurveyor XX
Overall Length: 19.52m
Width: 7.46m
Draught: 1.70m
Maximum Speed: 25 knots
Cruising Speed: 22 knots
Licenced for: 12 passengers + 3 crew
MCA Cat 2 - 60 Miles

Geosurveyor XIX
Overall Length: 19.52m
Width: 7.46m
Draught: 1.70m
Maximum Speed: 25 knots
Cruising Speed: 22 knots
Licenced for: 12 passengers + 3 crew
MCA Cat 2 - 60 Miles

Geosurveyor XVII
Overall Length: 17.80m
Width: 7.40m
Draught: 1.60m
Maximum Speed: 24 knots
Cruising Speed: 22 knots
Licenced for: 12 passengers + 3 crew
MCA Cat 2 - 60 Miles

Geosurveyor XIV
Overall Length: 19.90m
Width: 7.20m
Draught: 1.30m
Maximum Speed: 25 knots
Cruising Speed: 21 knots
Licenced for: 12 passengers + 3 crew
MCA Cat 2 - 60 Miles
VESSELS

Geosurveyor X
Overall Length: 20.56m
Width: 7.80m
Draught: 1.60m
Maximum Speed: 25 knots
Cruising Speed: 21 knots
Licenced for: 12 passengers + 3 crew
MCA Cat 1 - 150 Miles

Geosurveyor VIII
Overall Length: 12.50m
Width: 4.95m
Draught: 1.00m
Maximum Speed: 24 knots
Cruising Speed: 18 knots
Licenced for: 12 passengers + 2 crew
MCA Cat 2 - 60 Miles

Geosurveyor VI
Overall Length: 12.50m
Width: 4.95m
Draught: 1.00m
Maximum Speed: 24 knots
Cruising Speed: 18 knots
Licenced for: 12 passengers + 2 crew
MCA Cat 2 - 60 Miles

Geosurveyor IV
Overall Length: 12.50m
Width: 4.95m
Draught: 1.00m
Maximum Speed: 24 knots
Cruising Speed: 18 knots
Licenced for: 12 passengers + 2 crew
MCA Cat 2 - 60 Miles
**VESSELS**

**Geosurveyor XVI**
- Overall Length: 11.53m
- Width: 5.06m
- Draught: 0.91m
- Maximum Speed: 25 knots
- Cruising Speed: 18 knots
- Licensed for: 5 passengers + 2 crew
- MCA Cat 2 - 60 Miles

**Geosurveyor II**
- Overall Length: 11.00m
- Width: 4.30m
- Draught: 1.30m
- Maximum Speed: 24 knots
- Cruising Speed: 18 knots
- Licensed for: 12 passengers + 2 crew
- MCA Cat 2 - 60 Miles

**Geosurveyor V**
- Overall Length: 7.90m
- Width: 2.50m
- Draught: 0.80m
- Maximum Speed: 22 knots
- Cruising Speed: 16 knots
- Licensed for: 4 passengers + 2 crew
- MCA Cat 2 - 60 Miles

**Geosurveyor IX**
- Overall Length: 7.67m
- Width: 2.50m
- Draught: 0.50m
- Maximum Speed: 20 knots
- Cruising Speed: 15 knots
- Licensed for: 6 crew
VESSELS

Geobeam
Overall Length: 7.15m
Width: 2.44m
Draught: 0.50m
Maximum Speed: 15 knots
Cruising Speed: 10 knots

Geosurveyor XII
Overall Length: 6.50 m
Width: 2.33 m
Draught: 0.50 m
Maximum Speed: 15 knots
Cruising Speed: 10 knots
Licenced for: 2 crew

Geosurveyor I
Overall Length: 5.50 m
Width: 2.33 m
Draught: 0.50 m
Maximum Speed: 15 knots
Cruising Speed: 10 knots
Licenced for: 2 crew

Geocols
Overall Length: 6.10m
Width: 2.40m
Draught: 0.41m
Maximum Speed:
  Water: 30 knots
  Land: 10 kph
Licenced for: 2 crew