




Empowering the transforming energy sector

 **Gardline**



A child with brown hair, wearing a yellow t-shirt and blue patterned shorts, is snorkeling underwater. The child is wearing a red snorkel and has their arms outstretched. The water is clear, and the seabed is visible with some starfish. In the background, an offshore oil rig is visible on the horizon under a blue sky with white clouds.

Never stop exploring

Gardline is a best-in-class provider of geophysical, geotechnical and environmental marine surveys. We offer a comprehensive package of experienced staff, dedicated vessels and state-of-the-art equipment to empower the ongoing transformation in the offshore energy market. Providing high quality data and expert analysis, we lay the foundations for efficient progress and sustainable growth. With intelligent solutions, smart project control and in-house developed technologies, we work with our clients to deliver a cleaner, safer environment for tomorrow.

Tangible value for better results

At Gardline we deliver bespoke solutions for complex offshore challenges. Committed to helping our clients achieve their most ambitious goals, we provide high quality data and insights to design, build and run the most efficient offshore operations. Mitigating risks and increasing project efficiency are at the heart of our operations, all while minimizing environmental impact. Relying on 360° integrated survey solutions, we ensure that our clients deploy their resources intelligently and effectively.

Above and below sea level, Gardline performs second to none in both worlds.



Geophysical services

To support our clients to make the best decisions on the design and development of offshore installations, Gardline provides vital and detailed information of the seabed and underlying sub strata. Operating the world's largest fleet of permanently mobilised survey vessels, we have the knowledge and resources needed for any marine site survey investigation.

Gardline leads the field in geophysical marine surveying. Dependable and second to none in QHSE, Operational Excellence, 3D High and Ultra High Resolution Seismic and other innovative solutions, we stand out with our customer centric and result driven project approach. Tailoring our services to deliver efficient and repeatable results, we continue to meet and exceed expectations.

One of our core businesses and expertise is the provision of geophysical surveys to investigate whether the conditions on the seabed are suitable for the installation of offshore structures such as platforms and drilling rigs, pipelines,

wind turbine foundations and cables. To date, Gardline has successfully completed more than 11,000 marine survey projects for oil and gas operators and offshore wind farm site developers.

What is our data used for?

Hydrography and Geophysics are central to any site investigation, used to inform client's downstream EIA and engineering requirements.

How is our data used?


Hydrographic surveys are focussed on obtaining high quality bathymetric data of the seabed. A geophysical survey typically involves gathering data to inform on ground conditions and identification of any man-made and naturally occurring hazards that may adversely impact the objective of the site investigation (geohazards). This includes: water depths, seabed topography, seabed and sub-seabed obstructions, seabed soils, shallow and deeper geology.

What type of geophysical service do we offer?

Site Investigation Surveys

- Hydrographic surveys
- 2D and 3D(U)HR geophysical drilling and exploration site surveys integrated with
 - Environmental Baseline Surveys and Habitat Assessments
 - Shallow seabed geotechnical surveys
- Pipeline and cable route surveys
- Wind farm consenting and engineering surveys
- UXO geophysical surveys
- High resolution seismic undershooting of platforms
- Water Column Imaging and geochemical sampling

What type of equipment do we operate?

- 2D High Resolution seismic
- 3D High Resolution seismic 
- 2D & 3D UHR seismic (including μ Seis)
- Sub Bottom Profilers
 - Parametric
 - Pinger
 - Boomer and Sparker (low and high capacity)
 - Mini-airgun

- Digital Side Scan Sonars
- Single beam and multi-beam Echo Sounder
- ROTV (EIVA ScanFish Katria 3D) magnetometer array
- Cougar XT light work class ROV

Deliverables

All processing, interpretation and reporting is conducted in house at Gardline's interpretation centre using industry standard and bespoke software packages to ensure efficient and timely turnaround of all data sets.

Typical deliverables include:

- Desk Top Studies
- Geophysical Rig Site Investigation Reports
- 3D Seismic Hazard Assessments
- UXO investigation reports
- 2D/3D Seismic Processing
- Wind Farm Site Investigation reports
- Route Survey reports
- GIS projects



Geotechnical services

As a geotechnical specialist with over 30 years of experience, it is our objective to deliver bespoke services that address the demands of the developing energy market. With a vast variety of reporting capabilities, our people provide high quality data and insights for our clients to design, build and manage their offshore projects. Combining a wealth of experience with state-of-the-art technology, Gardline ensures smooth, safe and sustainable offshore developments. With integrated data acquisition and consultancy services, we serve as a one-stop shop for all project requirements. By helping our clients achieve their project objectives more efficiently and cost-effectively, we empower the transforming energy sector.



What is our data used for?

We supply a complete offshore geotechnical solution utilising offshore heave compensated drilling systems with wireline sampling, in situ testing and coring, seabed coring and CPTU services. Using state-of-the-art equipment and experienced, dedicated personnel, we provide an integrated data acquisition and consultancy service to our clients. We work in a wide range of industries, including oil and gas, renewable energy, government, civil engineering and dredging providing quality data and insight for our clients to design, build and manage their offshore projects.

How is our data used?

We have over 30 years of offshore geotechnical experience and are one of the world's largest marine geotechnical specialists. Our objective is to provide a high quality, bespoke, responsive and efficient service to support the transforming energy sector. We have an extensive reporting and consultancy capability, ranging from pre-field work desk studies to post acquisition, geotechnical engineering analyses for foundation design, platform and jack-up placement assessment, field development, wind turbine construction, pipeline routing and power cable routing.

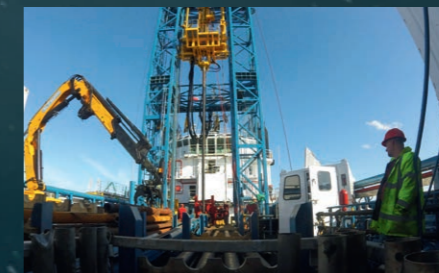
What type of geotechnical service do we offer?

- Site investigation planning, execution and supervision
- Laboratory program management, execution and supervision
- Multidisciplinary data integration (geological, geophysical and geotechnical)
- Development of ground models
- Geotechnical numerical analysis, engineering and design
- Geotechnical advisory services
- Enterprise geotechnical database design and management



What type of equipment do we operate?

- Dedicated geotechnical vessels and multi-purpose survey vessels
- Heave-compensated geotechnical drilling rigs
- Wireline sampling and testing systems
- Geobor S coring
- Wireline logging (Calliper, SP-logger, acoustic televiewer, natural gamma)
- Pressuremeter testing
- Seabed CPTU systems from 10kN to 200kN thrust
- Seabed sampling systems including box corers, vibrocorers, piston corers, deep-water sampler, jumbo piston corers.



Deliverables

Assessment and reporting:

- Geological and geotechnical desktop studies.
- Geological and geotechnical risk assessment studies and gap analysis
- Geotechnical factual and interpretative reporting (ISO 19901-8)
- Multidiscipline Integrative reports
- GIS geodatabase with custom geotechnical data query tools
- Geotechnical engineering analysis reports – e.g. foundation design, anchor design, temporary structures, dredging, slope stability
- Bespoke geotechnical studies



Environmental services

At Gardline we walk a fine line between conservation and exploration. In close cooperation with our clients, and combining best scientific practice with sound commercial understanding, we provide bespoke and forward-thinking environmental services to the offshore energy sector. With reliable and accurate information, vital to the success of offshore operations. We have been successfully completing environmental surveys worldwide for over 30 years, which has allowed the development of a high level of scientific and technical experience in the full range of marine environments. We are a market leader within the worldwide environmental services market.

What is our data used for?

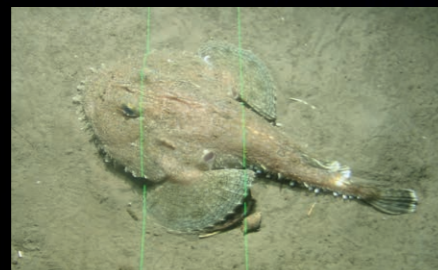
Our environmental surveys facilitate the client's compliance with local legislation and regulations. Surveys provide expert analysis and reporting of marine fauna and flora, including baselines, habitat assessment, benthic characterisation and water quality monitoring. Services also include marine mammal mitigation and acoustic studies.

How is our data used?

Gardline offers a unique survey capability that combines the acquisition of physical, chemical and biological data in one comprehensive survey. The capability draws on our considerable experience in marine geophysics, hydrography, digital mapping and underwater engineering using its dedicated fleet of survey vessels to provide a fully integrated survey capability. We conduct over 40 surveys annually, producing detailed reports to meet our clients' specifications. The surveys are designed around key legislation, prevailing environmental conditions and client requirements, utilising Gardline's extensive pool of survey equipment and highly trained field and reporting scientists.

What type of environmental service do we offer?

- Environmental baseline and post development surveys
- Benthic and pelagic surveys
- Temperate and tropical reef surveys
- Habitat and biotope mapping
- Fish spawning ground surveys
- Deep water surveys
- Marine mammal observation



- Passive acoustic monitoring
- Digital camera, ROV / AUV imagery and video analysis

What type of equipment do we operate?

- Sediment samplers, such as Day grab, box corer, Van Veen grab and multi-corers
- Water samplers and multi-parameter profilers
- Underwater digital camera systems
- Passive acoustic monitoring systems
- Acoustic recording units
- Acoustic deterrent devices
- Night vision goggles

Deliverables

Assessment and reporting of the following surveys:

- Baseline and monitoring
- Pre and post decommissioning
- Cuttings pile investigations
- Protected habitats & biotope mapping
- Environmental bibliographic studies
- Geochemical sampling and analysis
- Marine mammal risk assessments
- Sound source verifications
- Real time monitoring for compliance
- Acoustic modelling and impact assessment

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