

DSL[®] SERVICES FOR OFFSHORE WIND

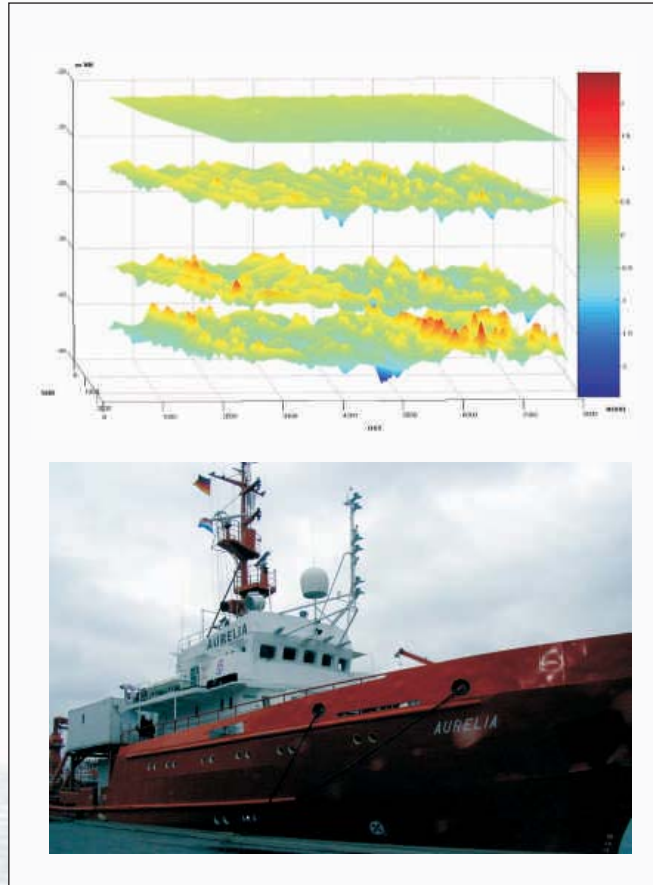
HIGH QUALITY GEOPHYSICAL SURVEYS

General Acoustics GmbH offers a wide range of engineering services to the offshore industry. The use of the exclusive and approved geophysical DSL[®] Technology (Detection of Sediment Layers and Properties) provides high quality results not achieved with any other conventional geophysical methods.

With this technology embedded objects and geological distinguishable layers will be detected exactly and clearly assigned to their respective geological properties up to 100m in the bottom. Cost intensive and time consuming conventional geological works are replaced by DSL[®] Technology.

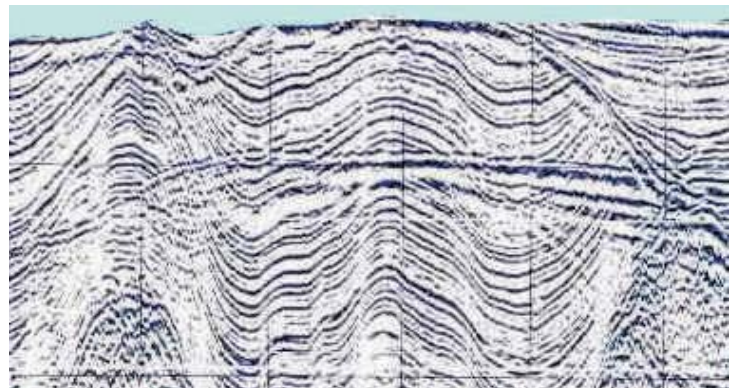
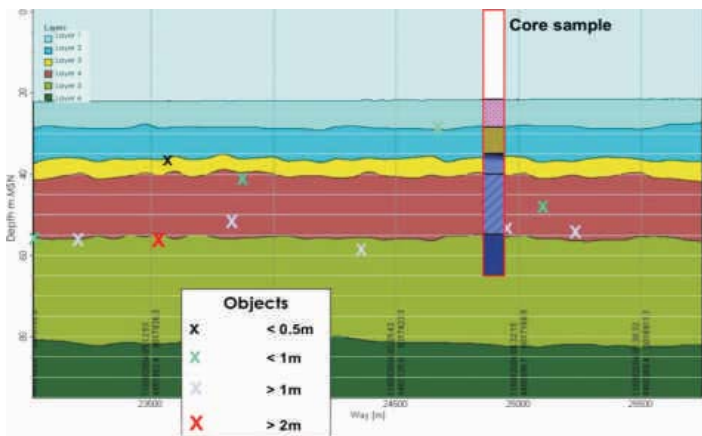
Subsoil construction risks can be almost completely avoided. DSL[®] provides the best possible planning reliability compared to all other available methods.

The use of DSL[®] increases clearly the quality of the site investigations. The planning costs for offshore wind parks are optimised by:



- a) compilation of the geological model of the whole wind park area and reduction of the number and location of the core probes to be taken
- b) detailed geophysical investigation and determination of the single construction sites
- c) seafloor monitoring of the immediate proximity to the construction and nearer surroundings
- d) detection of embedded objects (risks) and size classification
- e) correct positioning and supervision of cable lines

COMPARISON DSL[®] AGAINST CONVENTIONAL GEOPHYSICAL METHODS



DSL[®] results minimise construction risks

Results from conventional methods are subject to interpretation: High risks

Services offered for the different phases of an offshore wind park

PROJECT AREA PRE-EXPLORATION

- Determination of the bathymetry
- Generation of a high quality geological model and detection of all relevant soil layers up to 100 m below the sea bottom
- Optimisation of the number and position of cores to be performed

SITE EXPLORATION

- Exact measurement of the bathymetry of the construction area of the windmills, meteorological masts and substations
- Detailed assessment of the soil layers at the construction sites by means of a dense survey grid
- Detection and size classification of embedded objects up to 100 m below the sea bottom

CABLE ROUTE

- Exact determination of the bathymetry of the cable routes
- Detailed assessment of the soil layers along the planned cable routes
- Detection and size classification of embedded objects along the cable route, including tracking existing cables and pipelines

CONSTRUCTION SUPPORT

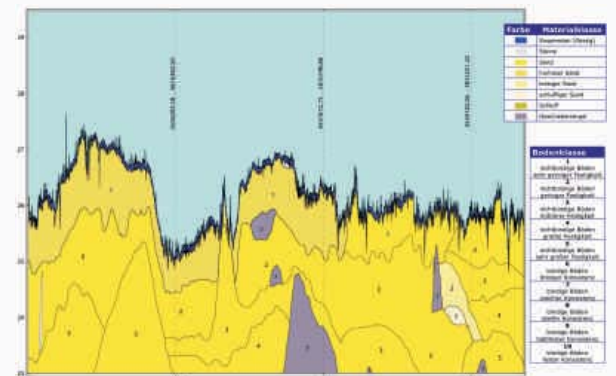
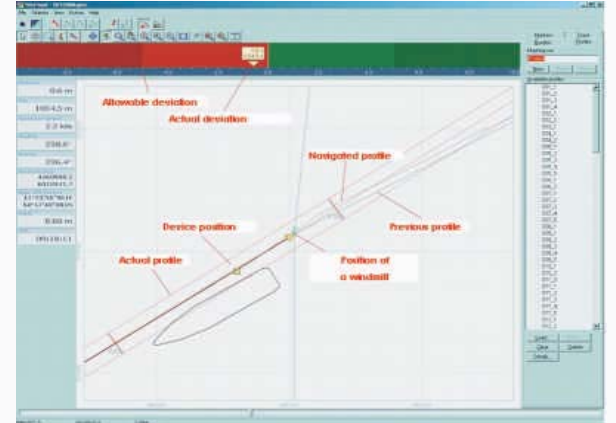
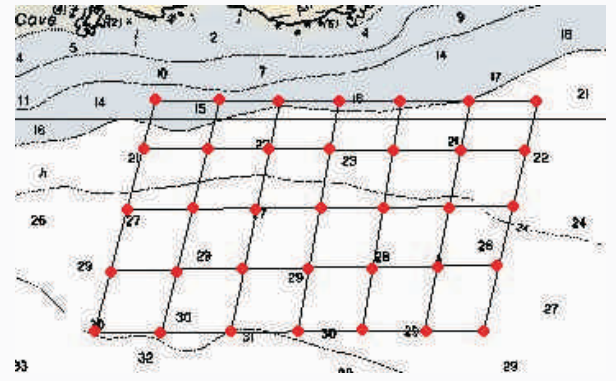
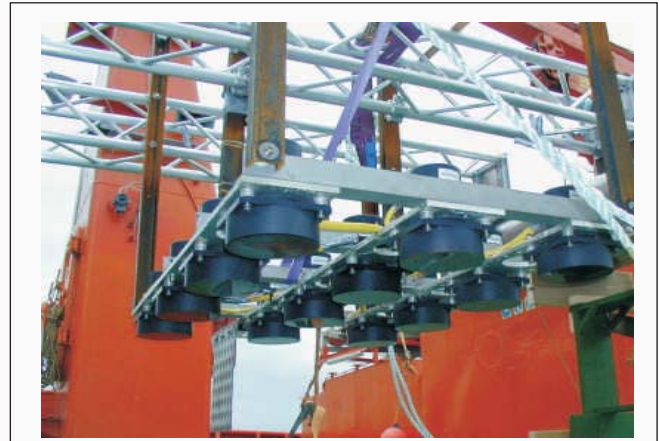
- Risk management, e.g. monitoring of erosion
- Assessment of alternative construction sites and/or cable routes

OPERATION MONITORING

- Monitoring of erosion/sedimentation processes around the windmills, meteorological masts and substations and along cables
- Monitoring of suspension layers

REFERENCES

E.ON Energy Projects GmbH/E.ON Engineering GmbH



Example of DSLP® showing objects

DSLP® technology eliminates construction risks and achieves the highest planning and financial reliability.

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