

N-Sea is an integrated subsea service provider. We offer a wide range of Survey and IRM services to civil contracting communities and the energy sector, focusing on the international oil and gas and renewable industry.

We meet our clients' needs. How? By providing effective and cost-efficient solutions for subsea assets and infrastructure, considering a safe environment.

N-Sea delivers subsea: from installation to decommissioning, from inspection through to maintenance management, we help assess the state of subsea assets and provide the necessary service throughout their entire lifecycle.

WE LISTEN THEN DELIVER

“EXECUTING OUR STRATEGY IN AN IRREVERSIBLE WAY”

We have the ambition to be the go-to total subsea solutions provider. We want to create a sustainable business, be less vulnerable and increase our profitability.

To realize this ambition, we have a clear vision and strategy relating our solutions, markets, geographies, and organization. To achieve these goals, we develop our organisation to the level of best in class being fully synchronised with our ambition and strategy by contributing to the following key success factors constantly:

- Qualified and engaged people
- Long term client relationships
- Strategic partnerships
- Innovative solutions
- Safety and quality 100%
- Visible presence

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NKT CASE STUDY

PROJECT

Geophysical, environmental and UXO survey along the design route of the HVDC Link interconnector cable known as ‘Shetland HVDC Link’ to be installed subsea between Weisdale Voe, Shetland Islands and Noss Head, Caithness, mainland Scotland. N-Sea client was NKT and their client Scottish Hydro Electric Transmission Limited (SHET).

SCOPE OF WORK

N-Sea were contracted to provide pre-installation geophysical & UXO Survey of a 50m route corridor except where requirements are reduced based on UXO risk. Several discrete area surveys at nearshore areas are required. Use of towed systems (dual MagSense and ROTV) operating MBES, SSS, MAG and vessel mounted SBP. ROV mounted survey spreads were utilised for crossing surveys to verify location and area topography for future crossing construction. Depth of burial was also supplied where possible. Benthic survey to be performed by drop down camera of the marine protected areas and horse mussel reefs.

N-Sea split the scope into nearshore and offshore operations. The Noordhoek Pathfinder undertook the offshore phase inclusive of the approach to mainland Scotland. Nearshore Weisdale Voe, Shetland Islands survey were subcontracted to Ultrabeam who executed the work using an unmanned amphibious vehicle surveying from the shore out to the 20m contour.

FEATURES

Client	NKT HV Cables
Location	Route between Mainland Scotland and the Shetland Isles
Period	23 May and 01 August 2021
Assets	OSV Pathfinder

CHALLENGES

- Environmentally sensitive area with many constraints effecting operational sequencing and equipment selection.
- An intensively active market hampering supply of personnel and equipment.
- Restricted ability to manoeuvre towed vehicles in estuary and shoreline approaches.
- Variable topography with high rocks in shallow waters.
- Highly complex installation route with many alter courses and water depths up to 120m resulting in long laybacks.
- Large survey areas to cover with requirement for high resolution
- High density fishing area with considerable amounts of debris.

SHEQ

Aligned SHEQ goals are fundamental to the way in which N-Sea operates. We encourage and train our people across our worksites, providing them with the support and assistance required to operate safely.

“WE GENUINELY CARE. OUR TARGET IS NO HARM TO PERSONNEL AND NO IMPACT TO THE ENVIRONMENT”

Our safety initiatives are a key driver to ensuring we achieve the highest safety standards:

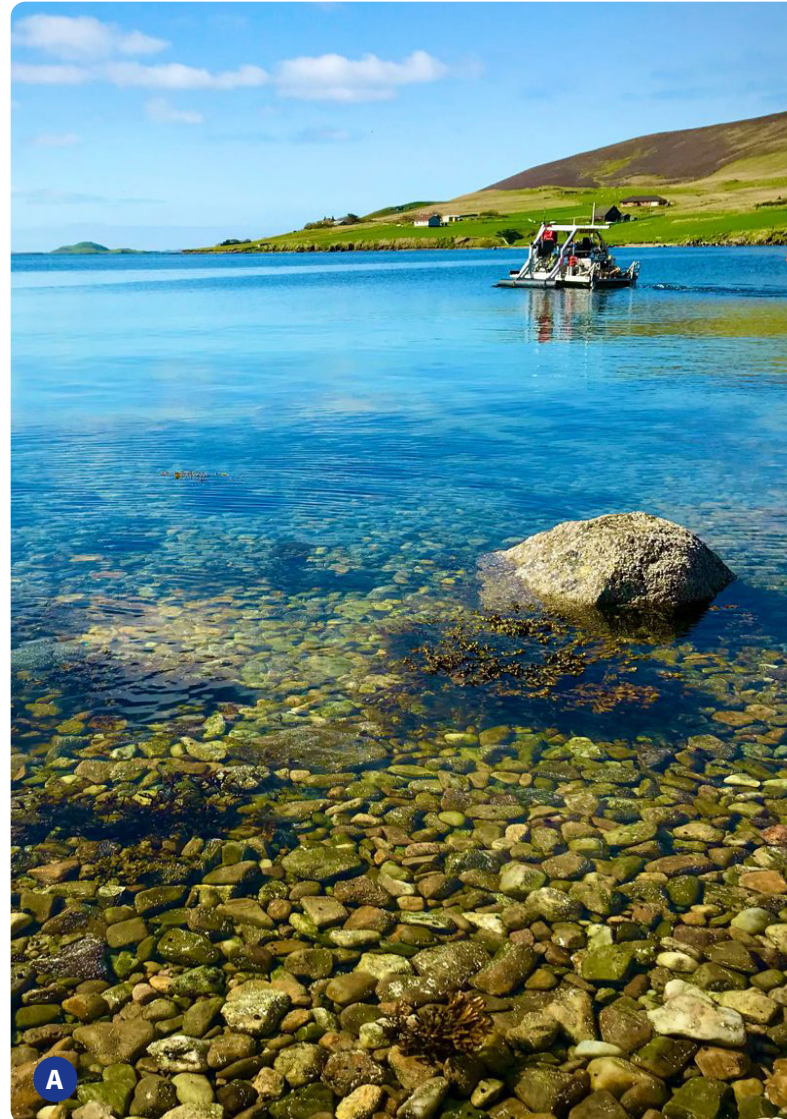
- by applying visible leadership, workforce engagement and effective intervention
- with a minimum impact on production
- considering environmental factors
- without compromising quality

N-Sea’s objective is to provide an environment where all those involved in/or are affected by the activities we perform, are safe and empowered to stop the job if they feel it is unsafe.

We are driven to perform in accordance with the industry best practices and meet the requirements of ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and ISO 45001 (Occupational Health & Safety).

We strengthen the above through our distinctive four-pillar approach:

- SAFE** Safety excellence is at the heart of everything we do
- TOGETHER** We work and operate as one group, teamwork is our strength
- SOUND** We listen then deliver
- SWIFT** We understand the priorities of our Clients



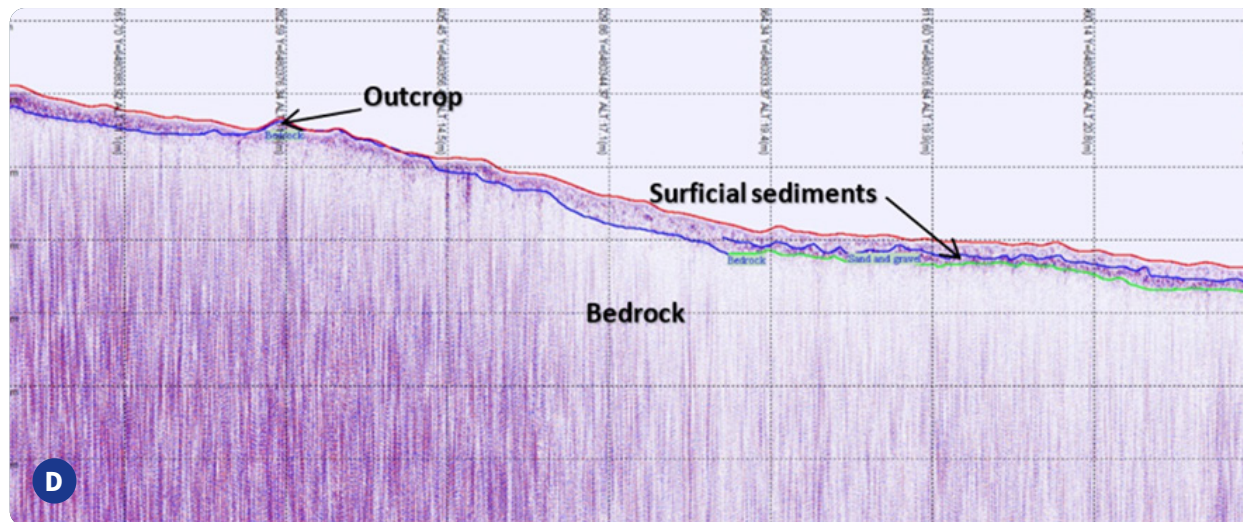
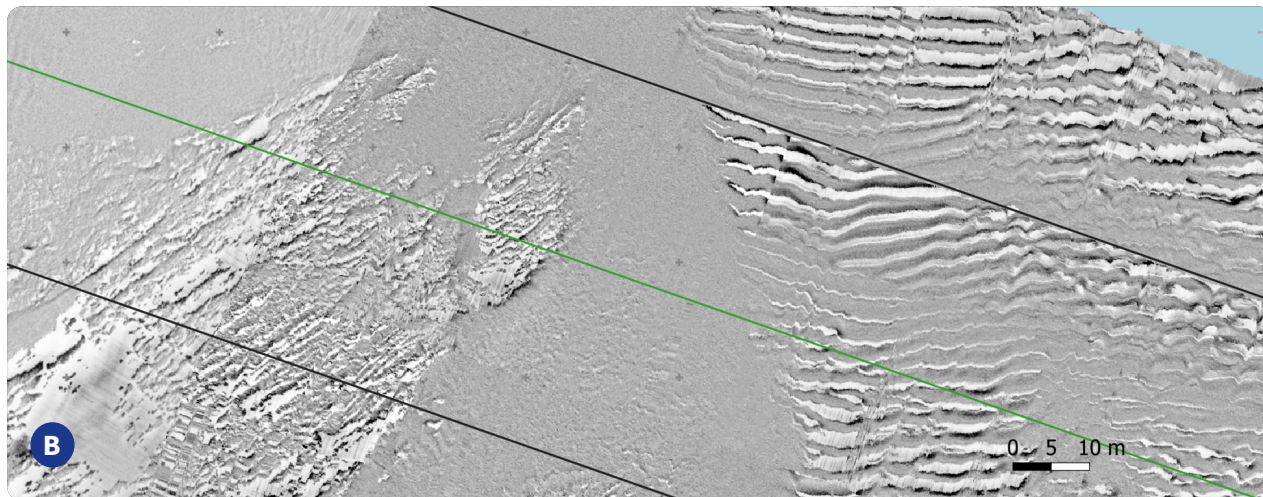
SOLUTIONS

- Clear navigation screen mapping of marine protected areas.
- HSE and environmental sensitivity were of the highest priority to comply with licencing conditions and mitigate marine mammal disturbance.
- Leverage full spectrum of supply chain relationships and personnel resources to ensure correct manning and equipment.
- Operational efficiencies were identified and instigated to minimise schedule duration.
- Use of N-Sea ROTV with side scan sonar and multibeam echosounder to ensure resolution regardless of water depth.
- Deployment of MagSense system in dual configuration to obtain massive coverage with minimal survey lines.
- Nearshore application of remotely operated amphibious survey vehicle, launched from Shetland shoreline

OUTCOME

This highly complex operation involving restrictive terrain nearshore and long layback tow operations at depth was a real testament to the skilled piloting and collaboration from N-Sea marine crew and experienced tow fish operators onboard the dedicated N-Sea survey vessel Noordhoek Pathfinder. The nearshore USV performed extremely well with rapid execution and turnaround of deliverables. Large area high resolution survey was completed with speed and efficiency by combining proprietary assets and know-how whilst respecting the environmentally sensitive nature of the work.

Analysis and reporting were completed during and after the operation with timelines met. Feedback from the client and end client was enormously positive. A significant amount of additional works was negotiated and executed under variation to the contract including the vessel returning to site following completion of a separate project in the vessel schedule. The additional works involved ROV based survey of an area previously inaccessible to towed operations due to fishing gear and ROV based site investigation searching for potential unexploded ordnance (PUXO).



A Argonaut at Weisdale Voe B Side Scan Sonar Mosaic with sand mega ripples and rock outcrop C Horse mussel bed D Sub Bottom Profiler image