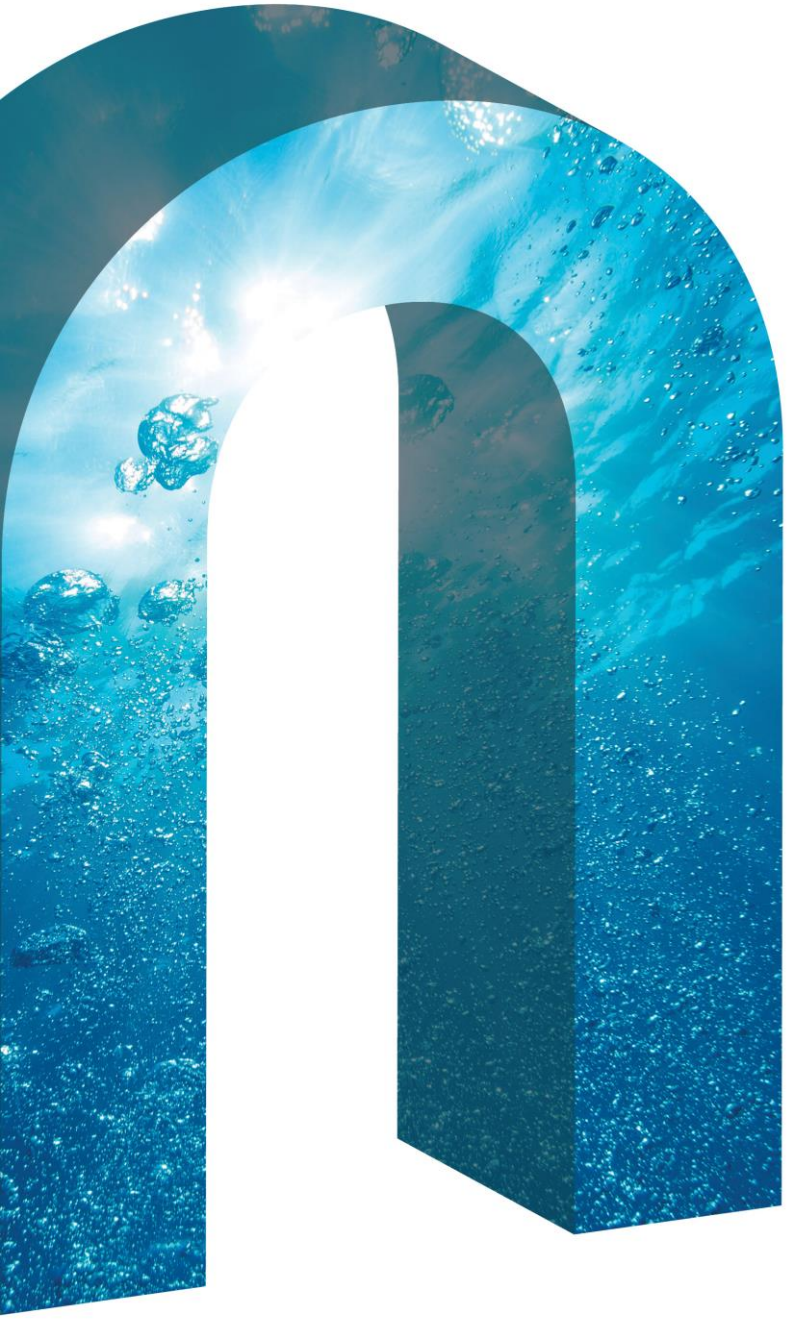

SEA

N-SEA EXPERIENCE: AN IN-DEPTH LOOK AT OUR PROJECTS.

CASE STUDY

BORWIN3 UXO SURVEY, ID AND DISPOSAL CAMPAIGN LOT 1

DELIVERING SUBSEA

PEOPLE / VESSELS / EQUIPMENT

BORWIN3 UXO, ID AND DISPOSAL

N-SEA: **CASE STUDY**

PROJECT FEATURES

Client: TenneT

Date: January to August 2015

Duration: 217 days

SCOPE OF WORK

N-Sea workscope comprised of UXO, ID and EOD. With the “TenneT project BorWin3”, transmission system operator TenneT builds a grid connection system to connect wind parks in the North Sea with the high-voltage grid onshore. The geophysical survey (multibeam, SSS, SBP and Magnetometry) totalized almost 2000 line km. Equipment utilised was N-Sea diverless airlift equipped with Blueview sonars, Ferrex Magnetometer, camera, lights, a transponder for USBL positioning and so on. Fina identification was performed by divers. Result: 3 positively-identified explosives: two sea mines and one grenade. The sea mines have since been destroyed on site, with N-Sea-Reaseuro coordinating the whole operation under supervision of the German KBD. As the grenade was a high explosive - rather than chemical - type, the grenade was transported to a safe location onboard the DSV Relume and destroyed immediately.

CHALLENGES

- Survey: Very Shallow waters combined with high current, sandbanks and near traffic lanes made the area very challenging. On top of this we had requirements for clearance depths up to 5m which made this project a real challenge as the wing had to fly 1-2m above the seabed.
- Identification: Strong currents up to 3 knots small vessels and 24h /7 activities cause all type of challenges regarding; Anchoring, dredging, diving…etc. On top of this we had nearly 0m visibility.

OUTCOME

- The project was completed in nearly half of the time spend by the competition on DOLWIN3 (150m away).
- Clients was very pleased with no problems between the phases (survey, ID and disposal until clearance certification) leaving no conflicts to the client.
- High price for N-Sea to learn how to approach the survey of high currents very shallow sandbank areas, which was compensated later with the Identification results.

SOLUTIONS

- Survey: Make use of very small and maneuverable vessels in the shallow parts (6m – 12m – 24m and 60m); Process data daily ashore and work through the scope by blocks so ID could start in the shortest delay.
- Identification: Made use of a diverless (1000kg) airlift completely fitted with a full video, light and sonar able to dredge and Id till 2knots of current.