

# DriX performs windfarm survey site using full Over The Horizon (OTH) capabilities.

Using the latest implementation of satellite Communication system, DriX was used to conduct the survey of a windfarm site in OTH mode.

## CHALLENGE

DriX OTH survey operation conducted from iXblue Remote Control centre (RCC).

## SOLUTION

DriX equipped with Satellite communication system, iXblue Phins C7, iXblue Echoes SBP 3.5K and Kongsberg EM2040C.

## RESULTS

Full OTH operation of survey conducted from RCC.

## Minimal environmental footprint

## DriX performed a Sub-bottom Profiler (SBP) and Multibeam echosounder Survey on a windfarm site.

Late 2020, iXblue was awarded the survey operation of a future floating windfarm site in the Mediterranean Sea. This survey was performed using Over The Horizon capabilities.



▲ iXblue's Remote Control Centre

DriX departed La Ciotat (South of France) with around 25Nm of navigation to reach the survey site, located offshore port Saint Louis du Rhône. Once accompanied outside of the port, the DriX command was handed over to the crew in the iXblue's remote control center to execute and supervise the mission. With the DriX navigating at speeds up to 14knts the transit time to reach the survey area could be minimized.

Supervised autonomy is defined as the USV ability to operate autonomously to achieve high level mission goals. All the while being supervised by a remote operator who can take over the USV control whenever the circumstances require it.

The DriX is equipped with advanced perception equipment including a radar, a Lidar and an Infrared Camera used for Obstacle management and user situational awareness. These targets are reported on the DriX Human Machine Interface (HMI) to the operator at the control center.

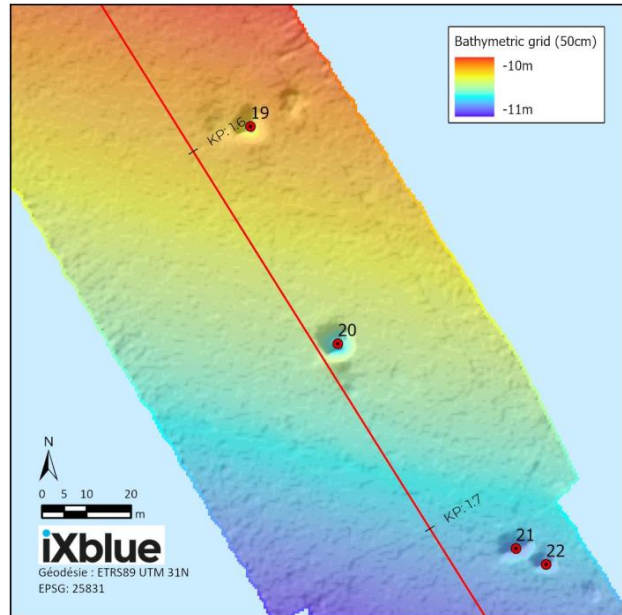
The operation consisted in performing a bathymetric survey with 100% coverage of the site and cable route corridor, concurrently with a Sub bottom Profiler. The quality control of the survey was performed in real time with Over The Horizon capabilities to ensure optimal configuration of the Echoes 3.5Khz sub bottom profiler and the coverage of the bathymetry.

Survey operations were conducted for 2.5 days, whereupon DriX transited back to La Ciotat, still under supervision of the Remote Control Center (RCC) team.

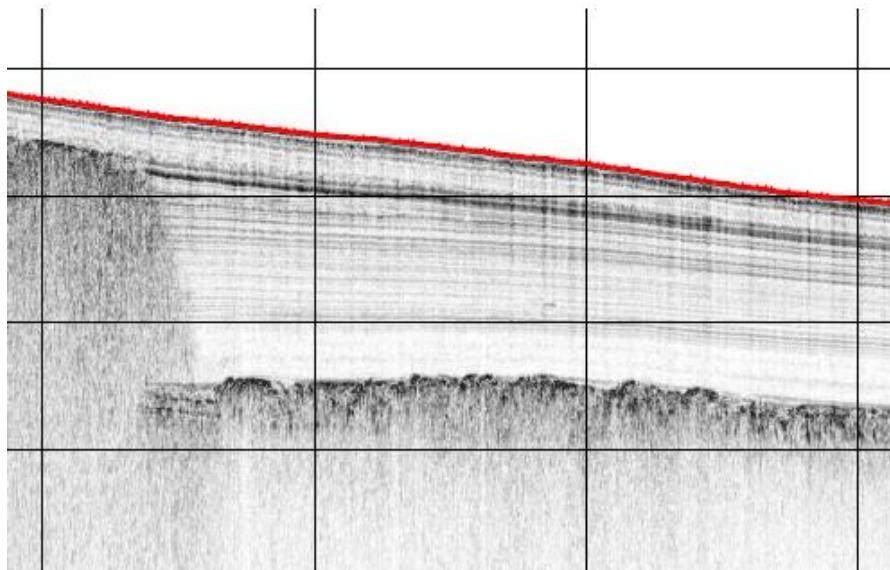
Multibeam survey was performed to assess the bathymetry over the complete survey site and route corridor, with depths ranging from 65 to 3.5m. In addition to the bathymetry processing, the analysis of the backscatter data allowed to create a seabed nature characterization map of the site.

Although the morpho bathymetry over the survey site was quite monotone, metric sized depression could be observed on the survey corridor.

DriX low noise level also allowed for optimal sub bottom profiler acquisition, with penetration up to 25m in the sediment.



▲ Depressions observed on the cable route corridor.



▲ Subbottom profiler data and Interpretation