

Powering wind energy in France: AKROCEAN uses WindCube Offshore to enable new offshore development



The challenge: Assist the French wind industry with fast, accurate wind resource assessment

AKROCEAN provides data as a service using Floating Lidar Systems (FLS). It assists with environmental monitoring and meteorology, but its main focus is offshore wind development, where it has pioneered the use of buoy-mounted lidar for campaigns that would be difficult or impossible using other technologies.

The French government, eager to accelerate its offshore wind industry, needed to quickly and accurately conduct preliminary site assessments of large offshore areas. AKROCEAN was selected for a four-year collaboration, which includes several one-year lidar campaigns. The goal is to give the French Ministry of Energy the data it needs to 1) refine its energy strategy and prioritize potential sites, and 2) obtain optimized, workable bids for wind farm development and construction.

The data must also be used to coordinate planning with other industries and interests, such as shipping and fishing.

The solution: Floating Lidar System to assess the wind in distant, deep waters

The French meteorological service, Météo France, was awarded to assess these potential offshore sites, with AKROCEAN providing its FLS, running the measurement campaigns, and providing quality control for the data.

AKROCEAN deployed two WindCube® Offshore lidar units on its WINDSEA® buoy to assess a large area and provide wide horizontal coverage. This arrangement provides data redundancy and reduces uncertainty, and the lidar's stable and comparatively low power consumption ensures high data availability. AKROCEAN says this was one of the reasons it chose WindCube lidar over competing measurement systems.

Project details

Location:
South Brittany, France

Lidar type/setup:
2x buoy-mounted
WindCube Offshore
lidars, 20km separation

Distance from shore:
20–30km

Water depth at site:
100m

“By definition we cannot host a lot of power devices on the buoy, which is why low power consumption is very important for providing high data availability,” says AKROCEAN’s Maxime Bellorge, Project Sales Director. “Offshore wind industry today requires more than 95% of data availability, so a low power consumption is key.”

**The benefits:
Meet demanding
government requirements,
empower developers**

Compared to met mast, FLS with embedded WindCube Offshore lidars are filling a crucial technological gap and opening up new frontiers for governments and offshore wind developers. This project, and others like it, are making FLS the reference technology for wind resource assessment and site suitability applications in harsh marine conditions.

Crucially, WindCube Offshore enabled AKROCEAN to meet the demanding requirements of the French Ministry of Energy.

Because the lidar system is validated according to the Carbon Trust Offshore Roadmap and permitted as a buoy, AKROCEAN could comfortably deploy each campaign within the four-month window the government needed. The lidar could go from port to assessment site in as little as a week.

Most important for the Ministry of Energy, the campaign helps define the capacity of future wind farms and clarify needs for the public tenders that will go to developers. All bidders will now have accurate datasets to provide quality plans — positioning France well in a competitive European wind energy market.

“We trust Vaisala in terms of system quality and reliability. Their track record onshore, offshore, and with floating lidar systems has greatly helped.”

*Maxime Bellorge
Project Sales Director
at AKROCEAN*



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