

## Q&A Webinar Metocean Measuring campaign HKW

October 15, 2020

## Questions: from the audience

Answers given by: Edwin Beringen (Fugro), Arve Berg (Fugro), Irene Pathirana (Fugro), Sofia Caires (Deltares), Miriam van Endt (Blix Consultancy), Marco Westra (Metocean Consult), Erik Holtslag (Pondera)

In the answers we refer to the 12 months report (and validation report) for the Metocean Measuring campaign. The report will be published on <u>https://offshorewind.rvo.nl/windwaterw</u>

**Question**: Which type of LiDAR has been used in this metocean measuring campaign? **Answer**: It is the ZX300M LiDAR from ZX Lidars.

Question: What is the amount of data?

**Answer**: The amount of data being transferred through satellite is approximately 130 kB (compressed) per day.

**Question**: Yes, but is all data transmitted via satellite? And what is then the total amount of data stored? **Answer**: No, high resolution data are stored on the buoy and downloaded when the buoy is serviced. The total amount of data (raw and processed data) from year 1 (12 months of data) will be approximately 6 GB.

**Question**: How long will the measuring campaign take? When did it start and when is it expected to finish?

Answer: It is a two-year program, Feb2019 - Feb 2021.

**Question**: At what height do the data return figures of wind speed in slide 29 correspond to? **Answer**: The availability figures are given for all individual heights in the data validation reports.

**Question**: Yes, but is the availability figure on slide 29 an average of all heights? What does D1, D2, etc mean?

**Answer**: D1 is deployment 1, D2 is deployment 2 and so on. Deployment 1 is the WS187 buoy at HKWA, Deployment 2 is WS188 at HKWB location, etc. In total there are 6 deployments, using 3 buoys in the first year. And yes, the availability figure on slide 29 is an average of all heights together.

**Question**: Will the time series be available to the participants for inhouse wind resource analysis? **Answer**: Yes, the time series will become available on the RVO public website.

**Question**: How can the buoys keep position against wave in case of strong waves and/or currents? And what was the deviation of distance from the original coordinates that was planned in case of this project? **Answer**: The mooring system is flexible (part of it is made of rubber) and strong. The buoy can pivot around the clump weight at max 200m.

**Question**: Does the change of multiple lidar devices on the same buoy increase the uncertainty compared to one lidar device for the complete measurement period?

**Answer**: Yes it does, but in this first year no LiDAR swaps have taken place amongst the buoys, always the same LiDAR-buoy combinations have been used.

**Question**: What is the relevance of the 5.8m Hs? Is this the limit to which the wind data is deemed valid? If so, are wind data available for periods where wave heights exceed this threshold? **Answer**: There is no relevance.

**Question**: Did Fugro Engineer correct the data due to movement of buoy (heave, pitch, roll) or are there any algorithm implemented to correct the wind data? **Answer**: Yes, but details are not public.

**Question**: Will the data measured in 2020 be available in the beginning of 2021? **Answer**: Yes, after the campaign has ended (February 2021) the full report and data of 2 years of measuring will become available (Q2 2021).

**Question**: Where can the time series from the buoys be downloaded? (time series of the surface elevation, ideally, or more raw data if available)

**Answer**: All data, including the raw data, can be downloaded as soon as they are published on the RVO website together with the publication of the 12 months report.