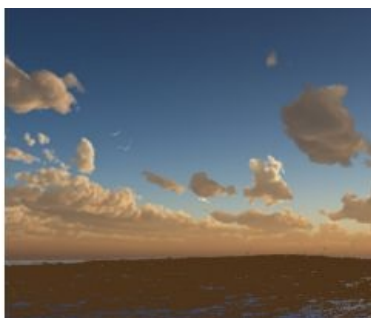
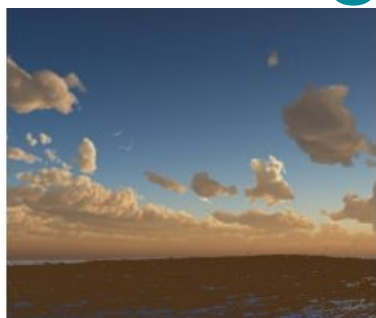


Advancing bird flight height measurement with Lidar technology



The use of Lidar in the offshore wind industry is providing valuable insights into avian interactions with wind turbines.

Lidar technology has already made its way into consumer devices such as smartphones, tablets and electric cars. However, prior to its consumer market applications, Lidar had been utilized by mapping and surveying professionals for several decades.

Now, Lidar is finding new purposes in the offshore wind industry. When combined with [ultra-high resolution surveys](#), [APEM](#), a renowned consultancy company, can accurately measure the flight heights of seabirds, providing valuable insights into avian interactions with wind turbines.

In a report, [Natural England](#) expressed optimism about this approach, citing initial studies that demonstrate a high level of accuracy. They highlight the importance of pairing Lidar with digital imagery to confirm bird presence, identify species and correlate birds with their flight heights. Despite these considerations, Natural England considers this method to be highly useful, as it can generate a substantial database of observations, potentially leading to a standardized set of flight height data.

Marine mammal and seabird population modelling

Digital aerial surveys have already become Natural England's preferred method for surveying seabirds due to their minimal disturbance or attraction compared to boat-based surveys. These surveys also eliminate observer bias and offer accessibility by allowing flights above wind farms, covering vast areas. APEM's clients benefit from cost advantages as well, as the company can gather comprehensive data in a single flight, which can be revisited in the future to accommodate the changing needs of developers.

APEM's surveys yield high-quality images that serve as a permanent record of observed birds. These images are valuable for risk and population modelling of marine mammals and seabirds. Since the data is permanent, it can undergo subsequent quality assurance, be archived and revisited when necessary.

It is fascinating to witness how Lidar data collected during APEM's flights will contribute to a standardized set of flight height data that can be utilized throughout all phases of offshore wind development for many years to come.



Lidar image of gannets. (Image courtesy: APEM)