

RAVE (Research at alpha ventus) offers its 10 years of measurement data to support research in offshore wind power

Dr. Bernhard Lange, Maren Engelhardt
Fraunhofer Institute for Wind Energy Systems Technology IWES, Germany



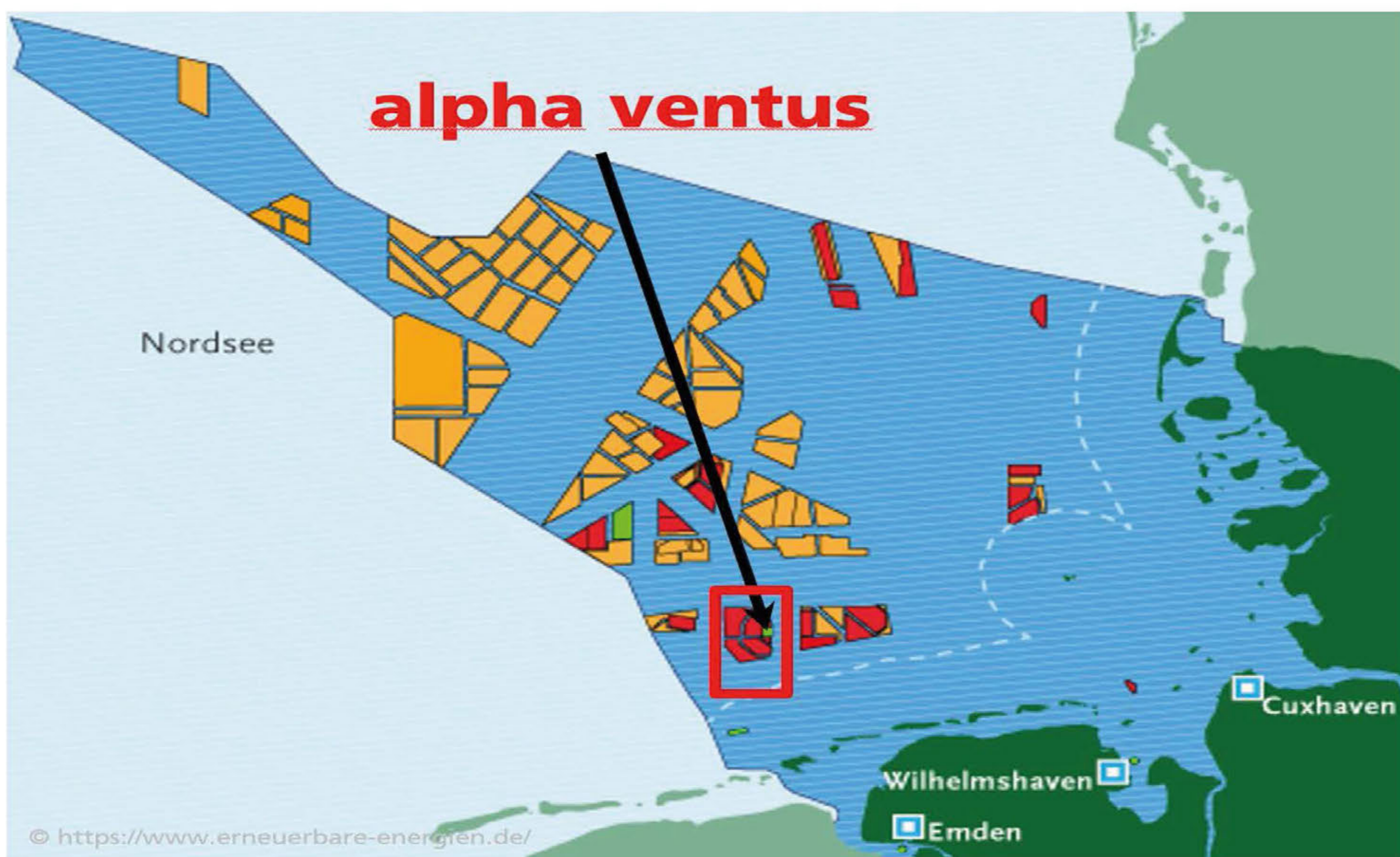
The first German offshore wind farm alpha ventus © Matthias Ibeler

Alpha ventus and RAVE

The first German offshore wind farm “alpha ventus” was built in 2009 as a test field for the development of offshore wind power. Twelve 5 MW wind turbines of two different types and with two different foundation concepts were erected under genuine offshore conditions.

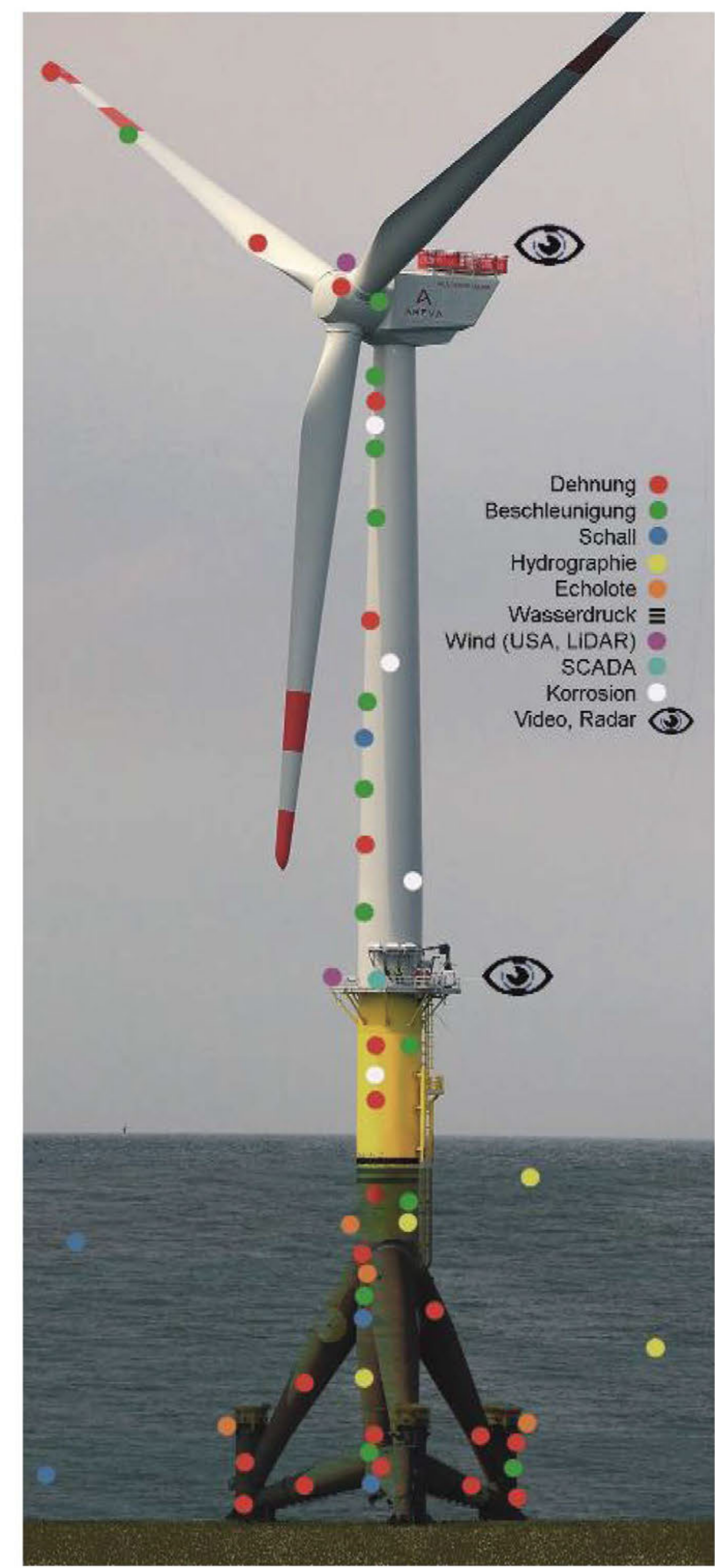
The accompanying research initiative “Research at alpha ventus” (RAVE) comprises research, development and demonstration activities in a coordinated effort. A broad range of research questions in utilization of offshore wind power are investigated in the areas of e.g. support structures, technology monitoring, grid integration and impact on the environment. To date, more than 35 projects were conducted with about 120 million euros support from the German government.

Annual Workshops are organized for regular exchange of research results and experience with the RAVE data. The upcoming International RAVE Workshop will take place on February 3, 2022 in Hamburg (also accessible online).



Location of alpha ventus © Erneuerbare Energien

Measurement Data



Measurement sensors at two wind turbines in alpha ventus © 2020 Fraunhofer IWES

A comprehensive measurement program lays the basis for the multitude of scientific activities in RAVE. Four of the twelve turbines are equipped with extensive measurement systems. These include SCADA data and measurements of the two different turbine and foundation types, electrical measurements at both the offshore and onshore substations, meteorological measurement at the 100m high mast FINO 1, oceanographic measurements, ...

Since 2009, a long-term and unique data set of in-situ measurements has been collected. The measurements are continuing, and the database is constantly being expanded.

Access to data

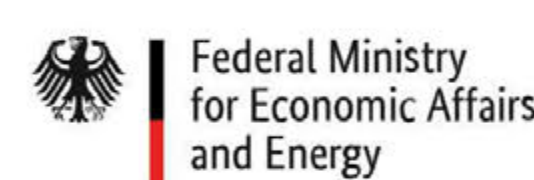
It is the main objective of RAVE to foster research in offshore wind power by providing these worldwide unique data free of charge to researchers. All measurement data can be accessed from the RAVE data base, which is operated by the German Federal Maritime and Hydrographic Agency (BSH).

Contact

For more information:
www.rave-offshore.de
info-rave@iwes.fraunhofer.de



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