Agenda

October 24, 2025

14:00 -14:05	Welcome and Introduction
14:05 -14:10	Key note : Why this subject matters
14:10 -14:20	Presentation of the FLOATFARM project
14:20 -14:50	Stories of women entrepreneurs and researchers driving change
14:55 -14:05	How can institutions and research organisations create a more inclusive sector?
14:05 -15:25	Panel discussion : How can we ensure the gender dimension is meaningfully integrated into EU collaborations?
15:25 -15:30	Q&A, Wrap-up and conclusion

03

Stories of women entrepreneurs and researchers driving change

Beatriz MENDEZ LOPEZ

Senior Researcher @ CENER
24th October 2025

CENER

Beatriz Méndez

Senior Researcher at CENER wind energy department

Senior Researcher in **CENER**´s Wind Turbine Design and Analysis Department since 2011. She received her Engineering M.Sc. at University Carlos III de Madrid and her Ph.D. in the field of computational fluid mechanics at Universidad Politécnica de Madrid, Spain. She also received a Fullbright award for a post-doctoral research in UCSD (California). Her main research interest is wind turbine aerodynamics, with a particular focus on computational fluid dynamics. In 2002 she started her career working on wind energy and aeronautics at the main Spanish industries: Sener, Gamesa, Airbus and Acciona Windpower (9 years). In CENER she has been involved in various research projects such as INNWIND.EU and AVATAR (7th Framework Programme),ODB (H2020) and research topics such as the influence of roughness in the airfoil aerodynamics, airfoil and blade design, CFD modeling of rotor aerodynamics and offshore platforms hydrodynamics. She is now the coordinator of HE AIRE project focused on making wind energy more resistant to weather conditions.

SIROCCO Project (FP5)

Gamesa Eolica Wind farm in Zaragoza (Spain)- G58 wind turbines -- 58 m rotor diameter

Setting up the experimental campaign

2003!!

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Journal of Sound and Vibration 299 (2007) 869–883

JOURNAL OF SOUND AND VIBRATION
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Location and quantification of noise sources on a wind turbine

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Received 9 September 2005; received in revised form 17 July 2006; accepted 19 July 2006
Available online 4 October 2006

Abstract

Acoustic field measurements were carried out on a three-bladed wind turbine with a rotor diameter of 58 m, in order to characterize the noise sources and to verify whether trailing edge noise from the blades was dominant. To assess the effect of blade roughness, one blade was cleaned, one blade was tripped, and one blade remained untreated. A large horizontal microphone array, positioned about one rotor diameter upwind from the turbine, was used to measure the distribution of the noise sources in the rotor plane and on the individual blades. The operation parameters of the turbine were recorded in parallel to the acoustic tests. In total more than 100 measurements were performed at wind speeds between 6 and 10 m/s. The array results reveal that besides a minor source at the rotor hub, practically all noise (emitted to the ground) is produced during the downward movement of the blades. This strongly asymmetric source pattern can be explained by convective amplification and trailing edge noise directivity. The blade noise is produced at the outer part of the blades (but not at the very tip), and the level scales with the fifth power of the local flow speed. Comparison of the noise from the individual blades shows that the tripped blade is significantly noisier than the other two. Narrowband analysis of the de-dopplerized blade noise spectra indicates that trailing edge bluntness noise is not important. All in all, the test results convincingly show that broadband trailing edge noise is the dominant noise source for this wind turbine.
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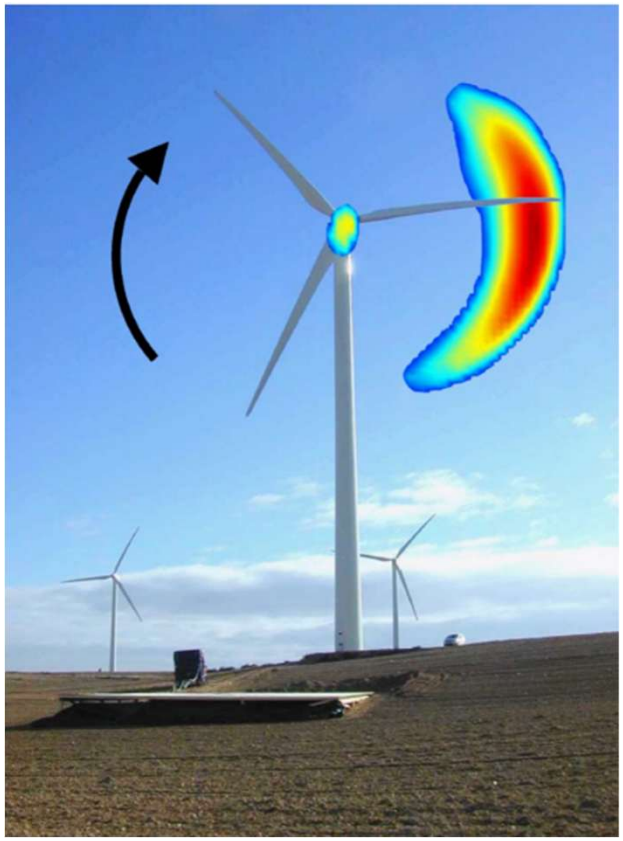
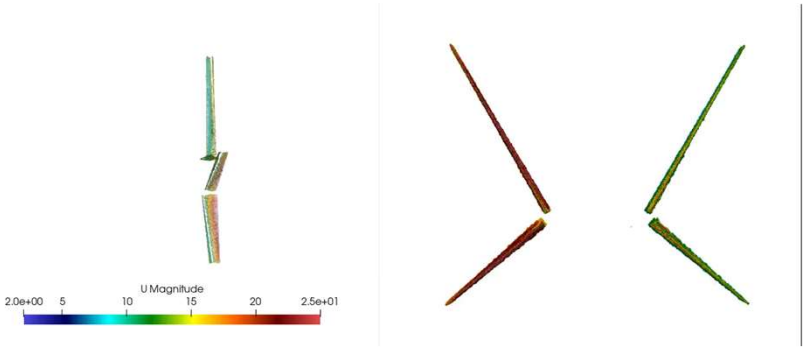
Experimental campaigns to understand noise sources in a Wind turbine + Desing of low noise emission airfoil

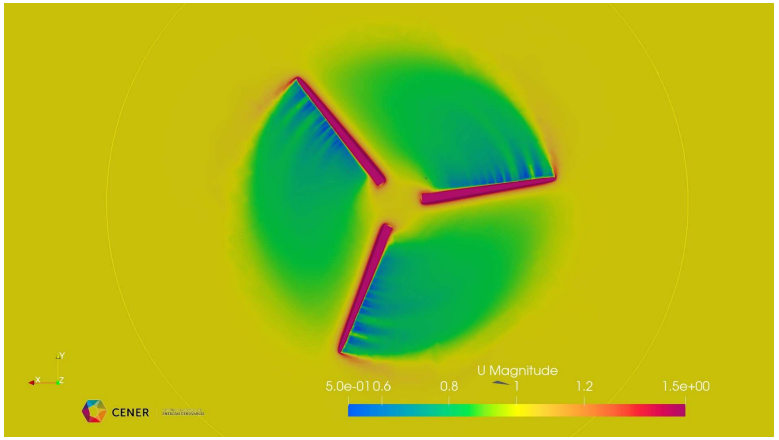


- *Airfoil design ,Wind tunnel experiments*
- *VG design, simulations with surface roughness and erosion*
- *2D and 3D CFD aerodynamic simulations*
- *Many European projects: INNWIND, AVATAR, ODB, XROTOR…*

Topics that continue to be very interesting!
Always contributing to the development and optimization of wind energy from the industrial and research sides.
Challenge: balance professional and family live

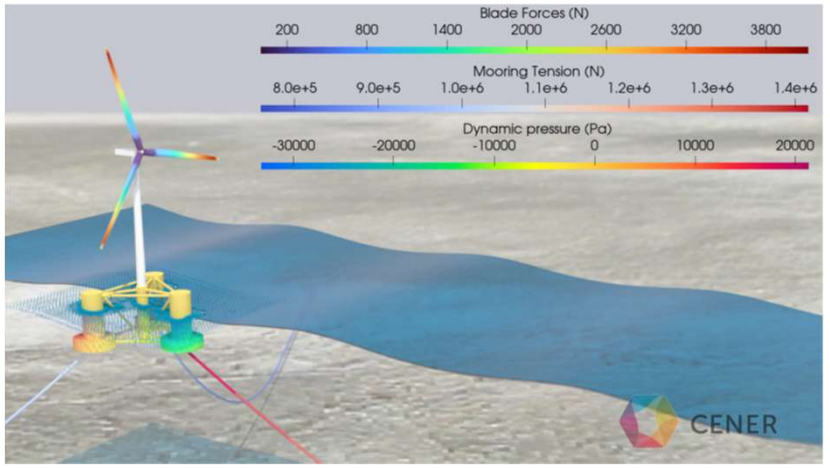


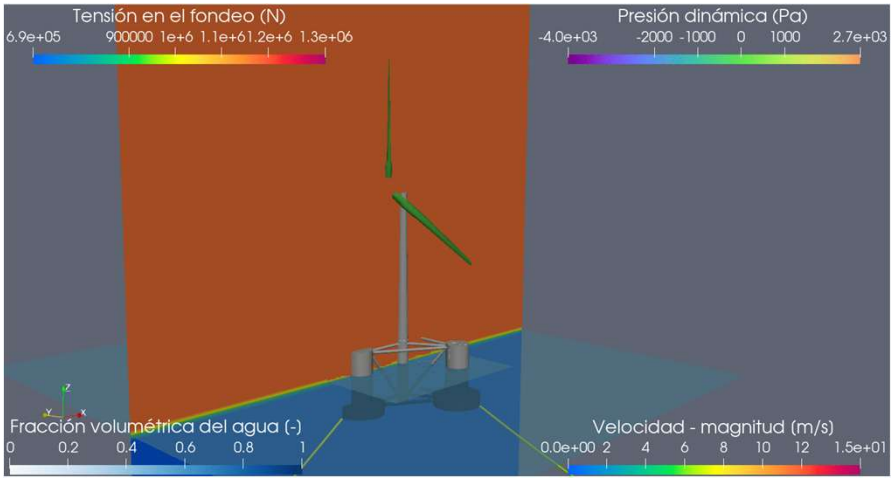
Innwind Project meeting (Pamplona 2017)

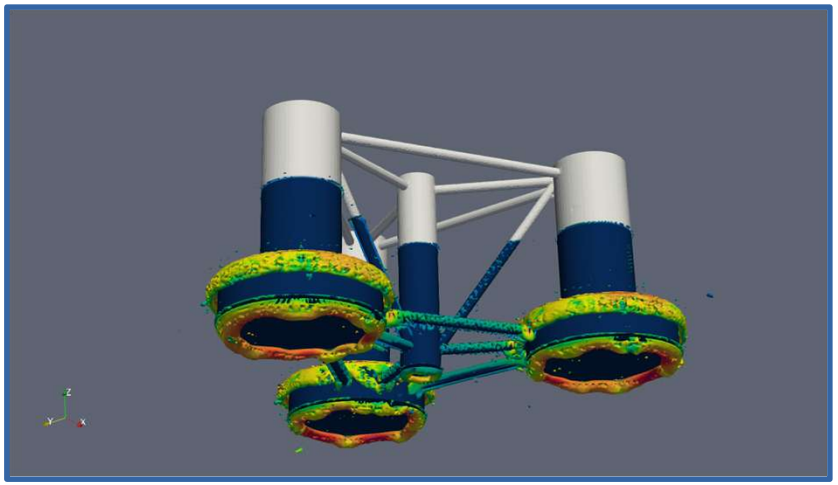


- *Hydrodynamics simulations using CFD*
- *Rotor and platform coupled simulations*
- *Several ways of modelling the rotor: OpenFAST, ALM, CFD….*

Floating wind energy and big wind turbines are the actual challenge of wind energy







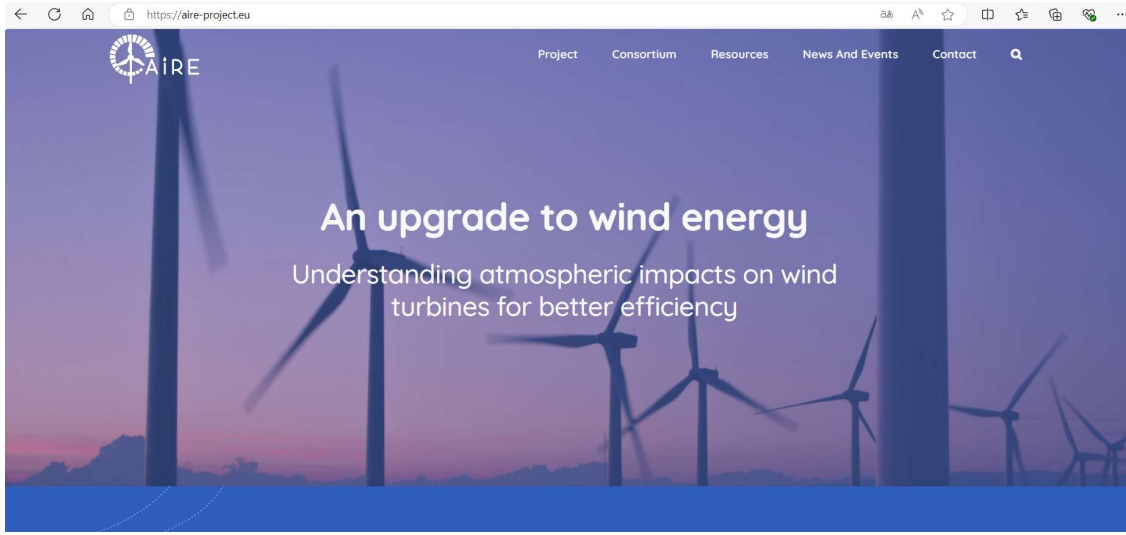
Coordinating and European project is a huge challenge!

How site location and climate conditions affect wind turbine and wind farm operation and design?

AIRE makes a holistic approach to:

- Study the effect that variables such as rain and particles have on wind turbines and wind farms operation.
- Improve wind turbine and wind farm design and control with weather intelligence.
- Increase wind energy efficiency.

aire-project.eu



Last AIRE Project General Assembly picture (January 2025)

7 WP leaders and 4 are women

In this picture 11 women and 12 men

We are very proud

- ***Collaboration*** *and* ***diversity*** *are essential in renewable energy.*

- ***Education*** *is a key challenge and is essential to boost women's participation in STEM careers*

- *In the past, we started working with the necessity of making wind energy more efficient. In 2025, we need to make this technology more* ***efficient****,* ***reliable*** *and* ***respectful*** *with the environment.*

- *For the* ***next generation****: Contributing to the deployment of clean energy worldwide is very rewarding.*


‘Rainbow wind farm’
how 5-year-old kids
see wind energy
PARQUE EOLICO
CASA

Thank you