

## CAPACITIES AEE/REOLTEC

AEE - Asociación Empresarial Eólica (Spanish Wind Energy Association)

REOLTEC (National Technological Platform on Wind Energy)

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# 1.1. AEE capacities

- Extensive knowledge of the wind sector.
- Coordination.
- Neutrality and confidentiality
- Dissemination

- ManuPromoters
- facturers
- Engineering
- Suppliers
- Insurance companies
- Financial entities
- Regional associations



# 1.1. AEE capacities

- Extensive knowledge of the wind sector.
- Coordination.
- Neutrality and confidentiality
- **Dissemination**

An important part of the activity of AEE is focused on its different working groups

Market Analysis >

Regulation and Taxation >

Grid integration >

Permitting >

International >

Life Extension & Repowering >

Health & Safety >

Industry & Logistics >

Cybersecurity >

Environment >

Generation Management  
(Hybridation, Storage and  
Hydrogen) >

Offshore Wind Energy >

Infrastructure Planning >

Regional Associations >

Circular Economy >

Communication & ESG >

# 1.2. AEE - General Objectives

To contribute to the development of wind power production.

Communication with national and local authorities, political parties, industry representatives and social entities.

Dissemination of the main features and advantages of wind energy through media relations, events, publications, and social networks.

To promote stable, economically efficient and predictable regulatory frameworks.

To promote technical and administrative improvements in the development of wind power through the exchange of experiences.

To cooperate with the authorities, industry's agencies and institutions to achieve these goals.

# 1.3. REOLTEC - General Objectives

Since 2005, AEE has been responsible for coordinating the Secretariat of the Spanish technological platform for the wind sector (REOLTEC). REOLTEC's primary objective is to promote research, development, and innovation initiatives that meet the needs of Spain's wind energy sector. The platform's mission is to foster collaboration among wind industry stakeholders, academia, research centers, and public administration to identify innovation priorities and ensure efficient use of resources and funding for innovative projects. By coordinating R&D efforts, REOLTEC aims to facilitate the development of cutting-edge technologies that will drive the growth of the wind energy sector in Spain and beyond.



# 1.4. Relevant skills and previous experiences

AEE has played a key role in several European and National Projects, assuming coordination, dissemination, and technical functions in project consortiums related to wind energy. The association's outstanding work has been recognized through successful awards in H2020 and Erasmus+ calls.

As a prominent national association with over 300 members, AEE possesses exceptional capabilities for project dissemination within the wind energy sector. Thanks to its industry expertise and involvement in most European and international exhibitions and events, AEE is invited to participate as experts in significant wind energy forums and exhibitions worldwide, including onshore and offshore wind markets in Japan, Denmark, India, and LATAM.

Leveraging its deep knowledge of the wind energy market, AEE provides excellent support for the development of exploitation plans for new projects and innovative solutions.

# 1.4. Relevant skills and previous experiences

AEE achieves all of this through a variety of initiatives, including:

- Integrating as many companies in the wind sector as possible, including promoters, manufacturers, financial institutions, insurance companies, suppliers, and more.
- Leveraging the potential of its members and concentrating efforts towards common goals.
- Supporting and collaborating with regional wind associations.
- Intensifying the exchange of experiences and data among all stakeholders involved in electricity activities.

On a daily basis, AEE organizes workshops, coordinates working groups, and maintains relationships with various stakeholders. Given its extensive experience, AEE is well-equipped to lead the coordination of the Advisory Board and stakeholders committee.

# 1.5. Project experience





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**“Project WINDEXT” (2020-2022).** Sponsor: European Erasmus + program of the European Commission, 612424-EPP-1-2019-1-ES-EPPKA2-KA. **Budget = 912.800 €.**

## **Role: Project Coordinator**

The goal of WINDEXT is to develop specialized training programs that will reduce the levelized cost of energy (LCOE) by lowering operating expenditures (OPEX), improving the quality of operation and maintenance (O&M) services, extending the lifetime of assets, and enhancing the working conditions of maintenance personnel. Through this project, we aim to drive innovation in higher education, typically dominated by professional teaching centers, and strengthen professionalism within existing companies while also fostering the creation of new business entities.

# 1.5. Project experience

The collage features the 'windEXT' logo at the top left, with 'wind' in grey and 'EXT' in green. Below it are logos for partners: AEE, RSConsultants, B P 2 T, Tesinor, INESCOTEC, TU Delft, University of Cyprus, UTEC, and SGS. The 'moodle' logo is in orange with a graduation cap icon. A central image shows a man in a red shirt using a VR headset and controllers in a room. To the right is a 3D CAD model of a wind turbine nacelle. Below the man is a VR headset and two controllers. At the bottom are three course cards for 'Introduction to Wind Turbine Technology', 'Maintenance', and 'HSE, Repowering & Life Extension'. On the right are three software interface panels: 'WExVIR H5P', 'WExLoB', and 'CaDWEx'.

## windEXT

AEE 8.2 RSConsultants B P 2 T Tesinor INESCOTEC

TU Delft University of Cyprus UTEC SGS

## moodle

### 01 Introduction to Wind Turbine Technology

Section 1: Introduction to Wind Turbine Technology

Access

### 02 Maintenance

Section 2: Maintenance

Access

### 03 HSE, Repowering & Life Extension

Section 3: Repowering, Life Extension and End of Life. HSE Issues.

Access

### WExVIR H5P

### WExLoB

Este software integra el código fuente de OpenFAST con una aplicación independiente de MATLAB como interfaz gráfica de usuario. El software se divide en cuatro partes:

- Análisis a nivel de sistema
- Análisis modal
- Análisis de carga
- Operación y control del aerogenerador

### CaDWEx

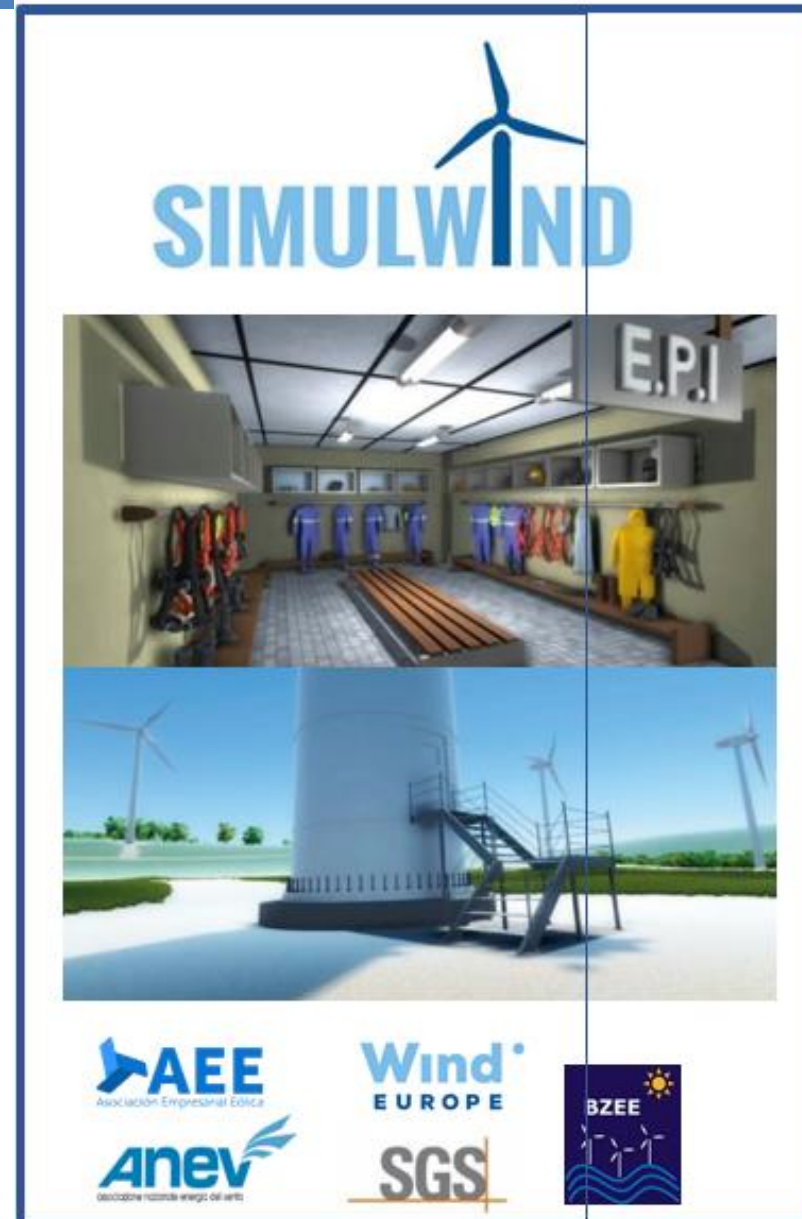
# 1.5. Project experience



**“Project SIMULWIND” (2017-2019).** Sponsor: European Erasmus + program of the European Commission, 2017-1-DE02-KA202-004261.

**Role: Technical Coordinator**

SIMULWIND surged as a result of the training needs of new professionals in the wind energy sector to face the challenges posed by the digitalisation of wind farms in industry 4.0. The scope of the project consists of the development of a computer simulator designed for training in maintenance and risk prevention in wind farms, with the aim of reproducing the various maintenance operations and failure modes of a wind turbine in a virtual environment.



# 1.5. Project experience



**Project SKILLWIND, The Serious Game” (2015-2017).** Sponsor: European Erasmus + program of the European Commission, 2015-1-ES01-KA202-015935 . **Role: Project Coordinator**

SKILLWIND was the result of the desire of several European countries to create a standardised training programme for the wind energy sector, with the aim of standardising training content and thus facilitating the mobility of workers between different countries. The result of the SKILLWIND project was an interactive game or 'serious game' for smartphones that constitutes an innovative training tool with which users can reinforce their knowledge of wind farm operation and maintenance. The application is available for smartphones running Android and iOS (Apple) operating systems and in several languages (Spanish, English, French and Italian), and incorporates a range of training modules, including general concepts of wind power, wind farm operation and maintenance and Occupational Risk Prevention.



**“Project TOWERPOWER” (2015-2017).** Sponsor: **7th Framework Programme** of the European Union.

The project included the design of a sensor system based on acoustic emissions (AE) and guided waves capable of monitoring the vibrations and degradation of the towers and metallic structures of offshore wind turbines, as well as the necessary communication systems to implement remote monitoring of each turbine from a control centre. The project culminated in 2017 with field tests carried out on a real prototype installed at the Nenuphar wind farm in Fos-sur-Mer (France).

# 1.5. Project experience



“Project WISEPOWER” (2014-2016). Sponsor: Intelligent Energy, Europe, IEE/13/528/S2.674872.

WISEPOWER was a European project aimed at increasing the social acceptance of wind energy as one of the key drivers for increasing the role played by renewables in the energy transition. To this end, the project focused on proposing measures to promote the participation of local communities in new projects, obtain greater support from public institutions and seek new and innovative financing models. The most efficient way to increase social acceptance of new wind projects is for the different stakeholders to be involved in their development, to be well informed and aware of the direct and indirect benefits they can bring to local communities.



“Project CSMWIND” (2012). Sponsor: 7th Framework Programme of the European Union.

The CSMWIND project consisted of the development of an advanced monitoring system for rotating components in wind turbines by means of the application of novel non-destructive testing techniques that were not previously being used in the wind sector. This new Condition Monitoring system improved component reliability by up to 50%, using a blend of vibration analysis (VA), motor current signature analysis (MCSA) and acoustic emission (AE) technologies to monitor operating conditions.

# 1.5. Project experience



“Project CAEOL” (2010). Sponsor: Spanish Occupational Risk Prevention Foundation (Fundación de Prevención de Riesgos Laborales)

Within the project, standardised procedures and protocols were developed for business activities tailored to the various types of companies that exist in the wind sector.



“Project WINDBARRIERS” (2009, 917.784€). Sponsor: Intelligent Energy – EUROPE, IEE/07/513/SI2.499556

The WINDBARRIERS project developed a methodology to analyse and overcome the administrative and grid connection barriers that hinder the development of wind energy in countries in the European Union. In 2009, the average administrative processing time of an onshore wind farm in Europe was 42 months and involved on average direct contact with nine different national, regional and local administrations. The project identified and compared the existing problems in different European countries in order to propose concrete solutions and methodologies to streamline the processing of new parks.

# 1.6. AEE Publications



<https://www.aeeolica.org/comunicacion/publicaciones-ae/estudios-macroeconomicos>

**Macroeconomic study of the impact of the Spanish wind energy sector (2020).** The results and methodology used can be applied for the social impact WP of the project.



<https://www.aeeolica.org/comunicacion/publicaciones-ae/posicionamiento-sectorial>

**Spanish Wind Energy Sector Business Directory of the Spanish wind power sector (AEE).** (2019). AEE has published, with the support of ICEX, the business directory of the Spanish wind power sector as an essential tool to facilitate the internationalization of Spanish companies.



<https://www.aeeolica.org/comunicacion/publicaciones-ae/posicionamiento-sectorial/3919-agenda-sectorial-de-la-industria-eolica>

**Sectorial Agenda of the Spanish Wind Energy Industry (2019),** developed together with the Spanish Ministry of Industry, Commerce and Tourism, which includes a roadmap of specific measures to strengthen the industrial sector, increase the export capacity, boost of R&D&I activities and development of offshore wind.



**Annual Report on Wind Energy Sector** which includes all the data, analysis and statistics of the wind sector. This is an Annual Report that has been published since 2009 and has consolidated as a yearbook reference for the sector in Spain and abroad.

# 1.7. AEE Project contributions

- POSSIBLE ROLES
  - ✓ Coordinator
  - ✓ Dissemination
  - ✓ Exploitation
  - ✓ Regulatory framework analysis
  - ✓ Technical Standards
  - ✓ Market analysis
- KNOWLEDGE AREAS
  - ✓ Offshore Wind
  - ✓ Integration of Renewables in the Network
  - ✓ Circular Economy
  - ✓ Maintenance training. Simulators
  - ✓ Social and environmental acceptance of onshore and offshore wind





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