

Towards Next Generation Short-term Forecasting of Wind Power - The ANEMOS Project

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Objectives

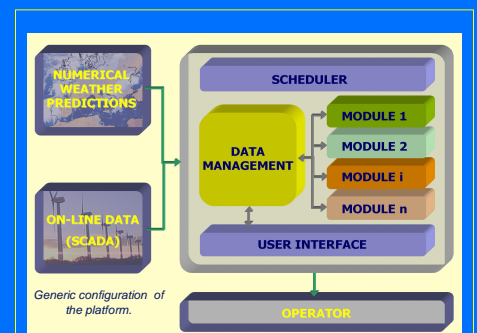
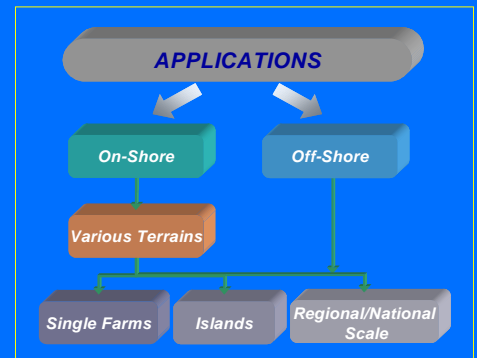
- ☒ **Accurate short-term forecasting** of wind power production up to two days ahead that will significantly outperform current methods.
- ☒ Contribution to an **economic and secure wind power integration**.
- ☒ **Enhanced competitiveness** of wind power in the liberalised electricity market compared to other forms of dispatchable generation.

The project demonstrates the **economic and technical benefits** from accurate wind prediction at different levels: **national, regional or at single wind farm level** and for time horizons ranging from minutes up to several days ahead when the aim is maintenance planning.

Emphasis is given to challenging situations such as **complex terrain, extreme weather conditions**, as well as to **offshore** prediction for which no specific tools currently exist.

The Project

- ☒ Detailed specification taking into account **end-user requirements** from utilities, TSOs/DSOs, IPPs, energy service providers, traders a.o.
- ☒ Advanced **statistical modelling** (statistical downscaling, power curve modelling...).
- ☒ Methods based on **physical modelling** with emphasis to complex terrain.
- ☒ **Combined forecasting approaches**.
- ☒ Prediction for **offshore** wind farms.
- ☒ Advanced **upscaling** for regional/national predictions.
- ☒ On-line estimation & monitoring of **uncertainty & risk**.
- ☒ Use of **high resolution meteorological information**.
- ☒ **Longer term prediction** (up to 7 days).
- ☒ **Benchmarking** of existing prediction models & detailed evaluation of models developed in the project.
- ☒ An advanced prediction platform with enhanced **ICT capabilities & intelligent information management system**.
- ☒ **Installation for on-line operation** in onshore & offshore cases.



Generic configuration of the platform.

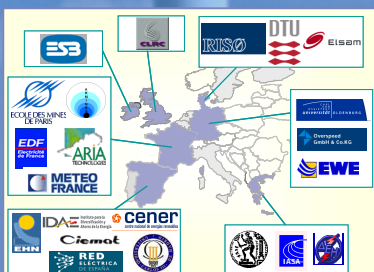
The ANEMOS software platform is composed of a number of easy accessible **plug-&-play modules** covering a wide range of **monitoring, nowcasting and forecasting** requirements.

Expected Results

- ☒ A next generation **forecasting platform**, ANEMOS, developed by industrial partners, to integrate the various models as plug-&-play modules.
- ☒ A **portfolio of advanced models** covering a wide range of end-user requirements.
- ☒ **ICT functionality** for operation of ANEMOS both in stand-alone or remote mode.
- ☒ Interfaces with standard EMS/DMS and SCADA systems.
- ☒ Demonstration of applicability at a **single wind farm, regional or national level** and for both interconnected and island systems.
- ☒ Evaluation of benefits from online operation.
- ☒ Guidelines for the optimal use of wind forecasting systems.



<http://anemos.cma.fr>



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