



## Online Advanced Course - 5 sessions *(price € 1560)*

The advanced windPRO course is for the experienced windPRO user who wants to go deeper into windPRO and may have accumulated questions on its use. During the course it will also be possible to discuss specific site issues the participants face in their daily work.

### **Session 1-3: Advanced AEP calculation: time varying AEP, CFD, curtailments, losses and uncertainties**

The course goes beyond the simple wind model, data treatment and operations of the basic course and focuses on:

- Advanced treatment and analysis of the wind data, including data patching and substitution
- Validation of the wind model: Is the model, you have created, correct? How can you verify it using cross-predictions, wind profile analysis and reference turbines? We will see how and when WASP-CFD can be used to improve the results in complex terrain
- Long-term correction of the measurements, the methodologies, and the plethora of reference data available including the EMD mesoscale datasets
- Time-domain energy calculation: Why use time-varying calculations? When not to use time-varying?
- Curtailment of the WTG in the time domain, e.g., noise modes, wind sector management and grid curtailment
- Loss and Uncertainties

The participants will also learn how to use mesoscale data for green field development, either stand-alone or combined with local measurements.

### **Session 4: SITE COMPLIANCE (IEC 61400-1), LOAD RESPONSE and lifetime extension (LTE)**

This part of the course is all about designing the wind farm. Is it the right turbines for the site? Will the wind farm comply with their design criteria for turbulence, extreme wind, loads etc.? This part is aimed at developers, operators and turbine suppliers who need to evaluate wind farm layouts before commissioning.

### **Session 5: PERFORMANCE CHECK: Post-construction analysis and model calibration**

When the turbines are finally running, how well are they performing? And can we use this information to improve our wind model?