



windPRO

# SOLAR PV in windPRO

*(2 half-day online sessions\*)*

**Enroll in our course to master the solar tools in windPRO and get a glimpse of how easily and fast you can design a PV plant in windPRO!**

**The course will teach you how to plan and design a PV plant that utilizes the available area(s) best, while taking land use and constraints into account. You will learn how to calculate the expected energy output from the plant.**

**We will guide you how to accurately set up a photomontage and simulate the visual data of the PV plant and other related 3D elements. Finally, the extent of glare from the PV plant that can be expected to occur at the surrounding dwellings, will be determined.**

## Structure of the course:

Each subject begins with theoretical and practical considerations, which are supported by a demonstration and followed up by a hands-on exercise, where the teacher is available for further guidance and help. There is room for discussions related to specific issues the participants face in their daily work.

## Topics

Upon completion of the course, participants will have a better understanding of how to design PV plants with respect to the following:

### 1. Energy – SOLAR PV

Get a comprehensive understanding of the SOLAR PV module. The course will focus on how to plan and design a PV plant that utilizes the available area(s) best. Upon completion, participants will be able to:



- Load basic data such as elevation models and background maps
- Define the project's area and plant parameters/design
- Detail the equipment specification: Panels, Inverters and Tracker
- Handle and load solar data
- Evaluate general losses
- Make external shading losses analysis: adding obstacles, wind turbines, and visualising their impact
- Setup an AEP calculation
- Optimise the plant parameters

## 2. Visual (PHOTOMONTAGE)

The course covers how to accurately set up a photomontage and how to input and simulate the visual data of the PV plant and other related 3D elements for environmental, advertising purposes, or any other application that would benefit from realistic images.

- Learn how to setup the appearance of the tables in the PV plant, considering details like the module and its frame types.
- Prepare a photomontage with windPRO adding objects like vegetation, fences, and transformer stations.
- Use the Sketchup Integration to enhance the Photomontage.

## 3. GLARE

- This part aims to assess the environmental impact of the project, with respect to the unwanted reflections of the sun's rays from the plant.
- Understand what glare is.
- Get an introduction into some country-specific requirements on glare.
- Define glare receptors (specific points where the result is desired/points of interest).
- Calculate glare from PV plants and other objects (like glass buildings).
- Prepare a Glare simulation and estimate: when it happens, the duration, and intensity of the glare effect.
- Use the Quick Glare View – A tool that automatically updates the results when the position of the receptor is changed.

### Who should attend?

The course is recommended for windPRO users that wish to step into Solar or Hybrid calculations. The participants must have a good understanding of windPRO and its basic functionalities.

*\* Each online half day corresponds to a 4.5-hour session.*