

## Function

Generates an animation of WTGs with rotating blades based on a photomontage (see the photomontage description in the VISUAL module). An animation player to play the animation on a PC is included with the program, but also animated GIF's can be made for use on home pages etc.

## Calculation Model

The technique behind an animation is as follows: The program renders a sequence of photomontages of the WTGs in which the blades of the WTGs are rotated slightly on each rendering. When a complete cycle of renderings has been made, the sequence can then be played repeatedly to make a continued animation of the WTGs with rotating blades.

The program automatically creates the necessary number of renderings for a complete cycle. A built-in routine allows the rotational speed to be adjusted within 5% in order to keep the number of renderings close to the minimum required in the animation setup parameters, thereby reducing the rendering time and necessary storage capacity considerably.

## Necessary Input Data (objects)

Objects are entered via the WindPRO module BASIS. Please read the description of the WindPRO module BASIS for further details.

### Wind turbines (placement, type and speed):

One or more WTGs are entered. The WTG can usually be found in the WTG Catalogue, which contains more than 500 different WTG types. In the WTG Catalogue the WTGs are described 3-dimensionally with dimensions and colors. The information needed for the animation follows those specified under VISUAL-photo montage plus information on the rotor speed. The correct rotor speed must be set in the WTG Catalogue (WindCat) for the WTGs used. Alternatively it can be entered together with the WTG data in the object list.

### Camera Object with Camera Model, landscape photo, etc.:

The camera object contains all relevant information regarding the digital image. The information needed for an animation follows that specified under VISUAL-photomontage.



## Description

Animated visualizations consist of rotating WTG blades in a sequence of renderings called an animation.

The animation has the advantage to a photomontage that it shows the rotation of the blades, the dynamic appearance that characterizes a WTG, contrary to other objects in the landscape. With this tool it is easier to evaluate alternatives like e.g. many smaller but faster rotating WTGs or larger but slower rotating WTGs.

## Output

The animation, which is stored as a file (.wpa format), can be played on any computer having the EMDplayer (free of charge) installed, i.e. not necessarily on a computer with WindPRO installed. Once the animation has been made it can be distributed together with the film player, e.g. by e-mail for quick installation and viewing. Our programmers have accomplished the task of optimizing the file format so that an animation takes up no more memory than the photomontage behind it.

The other output options are: animated GIF, separate bitmap files and flash file format. These formats allow to show the animations in a web-browser or to create the animation with a dedicated software.