SIMULWIND: maintenance **SIMUL**ator for the sustainability of European **WIND** farms

Project nº 2017-1-DE02-KA202-004261

IO2: WIND SIMULATOR "SIMULWIND"

IO2: VR WIND SIMULATOR "SIMULWIND"

The main result of this project was VR (Virtual Reality) Simulator to be used mainly as training tool of the main maintenance procedures but also to reproduce typical fault cases as well as the methods to fix them. This VR Simulator is based on a standard WTG which could be later adapted to different type of wind turbines as well as to introduce different maintenance procedures complementary to those integrated in the initial version.

The VR Simulator presents specific situations and cases in virtual reality that may occur during the operation of a wind farm. This represents a further step in training operation and maintenance technicians, as they will be able to test real life situations and concepts acquired in different training modules and it is in line with the growing trend of using digital tools in the wind industry and in the industry in general.

The VR Simulator offers the possibility for workers operation and maintenance workers to understand and know the details of a wind turbine before actually starting working onsite, which means a great advancement as it is not always an easy and affordable task in the training phase, particularly for offshore wind turbines.

The VR **Simulator** and the **3D model** can be downloaded in the following website:

www.simulwind.com

The **minimum hardware** requirements are the following ones:

- Procesor   Intel Core i9-9900k
- Base board   Gigabyte Z390 Aorus Pro WiFi
- RAM memory   Corsair Vengeance LPX 16Gb 3000MHz (4x8GB)
- CPU heatsink Corsair H100i Pro RGB
- **Graffic card   Nvidia RTX 2070**
- HDD   Seagate Barracuda 2TB
- SSD   Samsung 860 EVO 250GB
- Source   Antec HCG Gold 650W
- **Goggles   HTC Vive Pro Full Kit**

(in red: preferences/in bold: compulsory)

To launch the simulator after downloading and extracting the files it is necessary to double click on the application file called Simulwind.exe. Then, the screen on Figure 1 appears.
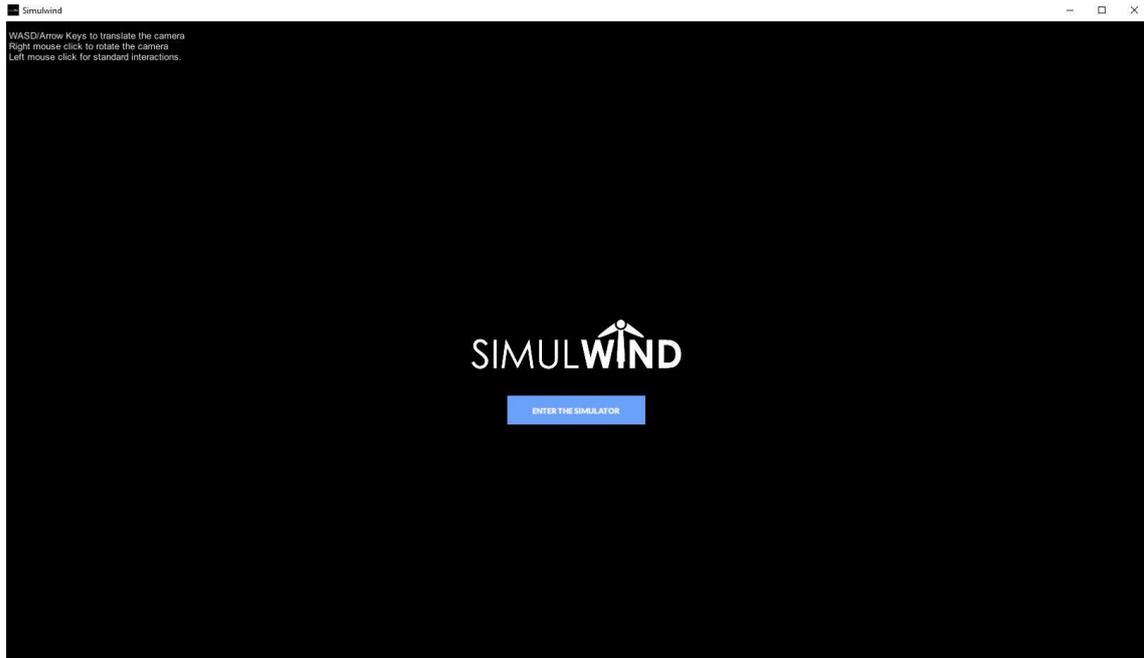
Figure 1. Simulwind welcome screen

By clicking on the button "Enter the simulator", the screen in Figure 2 appears, to access the simulator it is necessary to introduce the following user and password:

User: admin@simulwind.com

Password: admin

Figure 2. Simulwind access screen

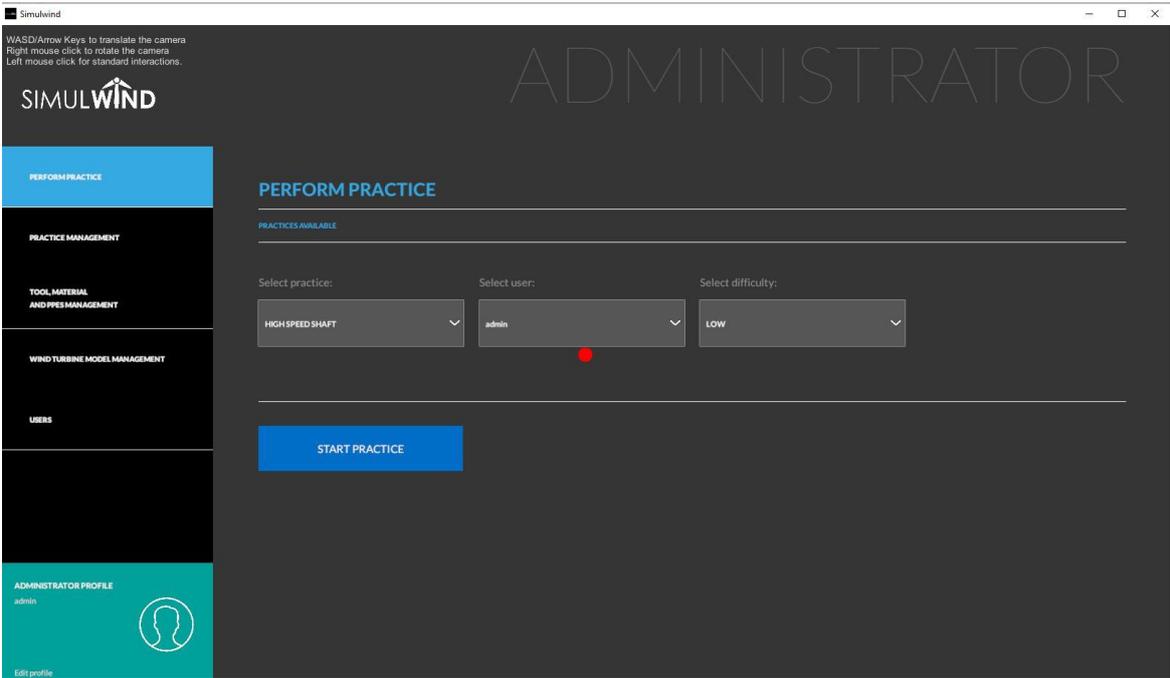Once in the simulator, the screen of Perform Practice is accessed and there the user must select the practices and the level of difficulty.

Figure 3. Simulwind practice selection screen