

# RISKREAL

*Virtual Reality & Digital Tools for the Evaluation and Training  
of Psychosocial Skills within Industries with Psychosocial  
Occupational Hazards*

Project N°: 2020-1-ES01-KA204-081847



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## FOSTERING INCLUSION & COMPETITIVENESS THROUGH TECHNOLOGY

Introduction by Keith Coleiro (MECB Ltd.)

This sixth and final issue of the project's newsletter provides a long anticipated update, that of the project's third output, the virtual reality simulator. We will be delving deeper into what the two different work environments replicated by the simulator, together with the different difficulty scenarios that users can engage in. This is the final project tool dedicated to the acquisition of psychosocial skills and allows for the better training of workers in the project's curriculum.



# FINAL PROJECT OUTPUT: VIRTUAL REALITY SIMULATOR

The professional training provided to low qualified workers within industries with high psychosocial risk is often limited to the mere development of technical skills. **RISKREAL** adopted a technological approach to address this gap in competences and provides three digital tools for the evaluation and acquisition of psychosocial skills.

The first tool, a gamified app aimed at evaluating individual attitudes and skills, was completed in order to enable training that is specific to the needs of the worker. The second output, that of digital theoretical training modules, aims to assist trainers and employers in cultivating and developing psychosocial skills among their workers.

The project's goal is further fulfilled through the release of the third and final tool. The latter is a virtual reality simulator that reproduces two settings, one being general and the other being specific to wind turbine maintenance.



# WIND TURBINE MAINTENANCE SIMULATOR

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As was mentioned above, there are two different work environments or settings being simulated. In turn, each setting provides two scenarios that differentiate themselves in terms of the task's level of difficulty.

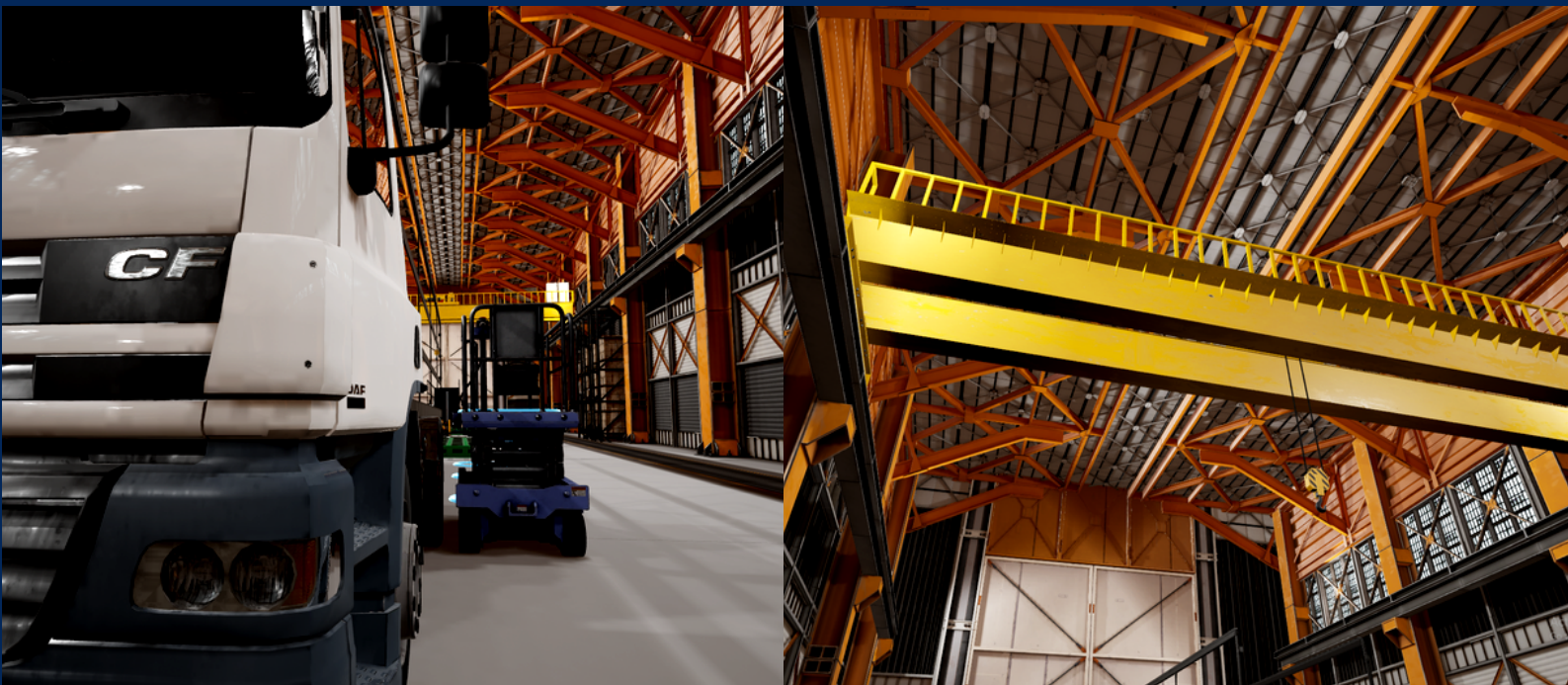
First, we shall explore the **Wind Turbine Simulator**. Here tasks revolve around the **electrical shut-off of a wind turbine as it is prepared for routine maintenance**. This simulated work environment is driven by **specific and well-defined technical procedures** that the user needs to follow in order to fulfill the tasks. The user's psychosocial skills are further put to test through **induced pressure by completing the task within a certain amount of time**, whilst also facing **challenges with the given personal protection equipment (PPE)**. Being a technical task, this simulated work environment is **more linear and every decision has both direct and specific consequences to the final performance evaluation**. Despite this, the user can practice within the safety and peace of mind provided by a virtual environment.



# GENERAL PURPOSE SIMULATOR

Whereas the first simulator is very specific, the **second simulator is more general**, allowing it to be more relevant and applicable to far larger amount of work environments and settings.

Here, tasks revolve around the **direct control of a bridge crane within a small workshop**. The virtual environment replicates the work area commonly found within small manufactures of mechanical components, such as moulds. This simulator **contrasts with the previous one by being far more open**, with no linearly defined or specific procedure to follow, allowing it to be **applied to different work tasks that face similar psychosocial hazards and risks**.



In the first scenario, the **crane operator must load a truck within a limited amount of time**. The user is being urged to hurry all throughout the task. **Factors influencing the difficulty of the task** are noise levels, lighting conditions, the number of obstacles that need to be avoided, together with the number of factory staff crossing the user's loading path.

In the second situation, the **bridge crane controller is being required by another co-worker**, but the user is tasked with **completing their own tasks first**. Here, **factors that increase the task's difficulty** include the level of pressure from the co-worker, the number of obstacles that need to be avoided or removed, a countdown, together with a required level of feedback that is given to a novice co-worker.

# SYSTEM REQUIREMENTS

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Whilst the simulator can be easily used with VR devices, this is not a strict requirement. The simulator can also be employed as a desktop simulator without the use of a VR Headset. In terms of language accessibility, the simulators can be used in English, Spanish, Italian, Greek, and Maltese. The application also allows for multiplayer cross play, where users on both desktop and VR platforms can access the application simultaneously. Below are the minimum system requirements to operate the simulator in either Desktop or VR Mode.

## DESKTOP VERSION

**Processor:** Intel i5-4590/AMD Ryzen 5 1500X or higher

**Graphics Card:** GeForce Nvidia series 9 or higher

**Memory:** 4GB RAM or more

**Operating System:** Windows 10

**USB 3.0 Port:** 0

## V.R. VERSION

**Processor:** Core i5-7500/Ryzen 5 1600 or higher

**Graphics Card:** GTX 1060 or RX 580 - with 6GB VRAM or higher

**Memory:** 8GB RAM or more

**Operating System:** Windows 10

**USB 3.0 Port:** 1



**Available at:** [riskreal.eu/outputs](https://riskreal.eu/outputs)



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