



Ludus

VIRTUAL REALITY TRAINING FOR PROPER USE OF PPES

L U D U S GLOBAL

LUDUS PRESENTS AN INNOVATIVE, 100% REALISTIC AND RISK-FREE TECHNOLOGY

- ▶ **Improves effectiveness** in the learning process of operators.
- ▶ **Reduces the costs associated** with training and travel.
- ▶ Reduces the number of **accidents and casualties**.



VR SIMULATION

Realistic interaction with the environment: body movement, VR headset, hand tracking, surround audio.



SUPERVISOR

A supervisor monitors the simulation and can also perform the exercise setup



STATISTICS

Simulations keep track of each user's **decision-making and performance** so that it can be studied later in the classroom.

SIMULATOR IN VIRTUAL REALITY FOR THE USE OF PPEs

- ▶ PPEs is a LUDUS product oriented to the **correct use and inspection of personal protective equipment** for industrial work.
- ▶ The objective of the user is to **assess the risk of the different industrial work of the simulation** and to equip themselves with PPEs correctly to carry them out.
- ▶ This simulation does not explicitly represent industrial work but shows several PPEs and, given a statement, **the user must only perform the previous work of dressing properly.**
- ▶ The simulation allows the user to **inspect the PPEs, also observing the level of safety indicated** by the different CE markings, pictograms...
- ▶ To further assess knowledge of protective equipment, **the simulation includes different varieties of inadequate or damaged PPEs.**



▶ CHEMICAL RISKS

Approximate task duration: 10 minutes

- ▶ This set of exercises encompasses several tasks that involve exposing the user to chemical hazards. The user shall observe the PPEs and place the correct ones for the performance of the following tasks:
 - ▶ Cleaning a vat
 - ▶ Transfer of sulfuric acid 98-99%
 - ▶ One-piece pickling
- ▶ LEARNING OBJECTIVE:
 - ▶ It is a set of exercises in which the user's ability to choose and review the personal protective equipment is sought evaluate before performing different chemical tasks.
- ▶ PPES INCLUDED:
 - ▶ Chemical gloves
 - ▶ Protective suit
 - ▶ Chemical boots
 - ▶ Gas Mask
 - ▶ Gas Detector
 - ▶ Helmet with protective screen
 - ▶ Safety glasses
 - ▶ 7 versions of the same previous PPEs
 - ▶ damaged or mislabeled



ROADMAP

DEVELOPMENT ROADMAP FOR THE PPES PRODUCT

V1 BASIC EXERCISES

NOW AVAILABLE

V1.1 ELECTRICAL AND MECHANICAL RISKS

Q2 2020
Pres. Approval

V1.2 CONTINUOUS IMPROVEMENT

Q3 2020
Pres. Approval

- ▶ Our goal is to **grow together with our customers**, collecting information about the future exercises of each product.
- ▶ Your feedback is extremely valuable to us. Our approach is to have living products, which improve by and thanks to our customers.

▶ V1.1 ELECTRICAL RISK

- ▶ This set of exercises encompasses a number of tasks that involve exposing the user to electrical hazards. The user shall observe the PPEs and place the correct ones for the performance of the following tasks:
 - ▶ Maintenance of low voltage switchgear
- ▶ LEARNING GOAL:
 - ▶ It is a set of exercises in which is evaluated the user's ability to choose and review the personal protective equipment before performing the task with electrical risk.
- ▶ PPES INCLUDED:
 - ▶ Dielectric boots
 - ▶ Dielectric gloves
 - ▶ Protective screen
 - ▶ Electrostatic protective clothing and electric arc
 - ▶ 4 versions of the same previous PPEs with damage or mislabeling

▶ V1.1 MECHANICAL RISK

- ▶ This set of exercises encompasses several tasks that involve exposing the user to mechanical hazards. The user shall observe the PPEs and place the correct ones for the performance of the following tasks:
 - ▶ Tooling parts in numerical control machine
 - ▶ Grinding parts
- ▶ LEARNING GOAL:
 - ▶ It is a set of exercises in which is evaluated the user's ability to choose and review the personal protective equipment before performing different tasks of mechanics.
- ▶ PPES INCLUDED:
 - ▶ Cut-resistant gloves
 - ▶ Safety glasses
 - ▶ Protective footwear
 - ▶ Facial screen
 - ▶ Fireproof clothing
 - ▶ Hearing protectors

BASIC STATISTICS

STATISTICS SYSTEM

- ▶ **Deployed to the user** at the end of the simulation.
- ▶ **Save individual reports** for later consultation.

- ▶ The following data is displayed and saved:
 - ✓ Exercise time
 - ✓ Mistakes in the selection of PPEs
 - ✓ Approved/Not Approved

