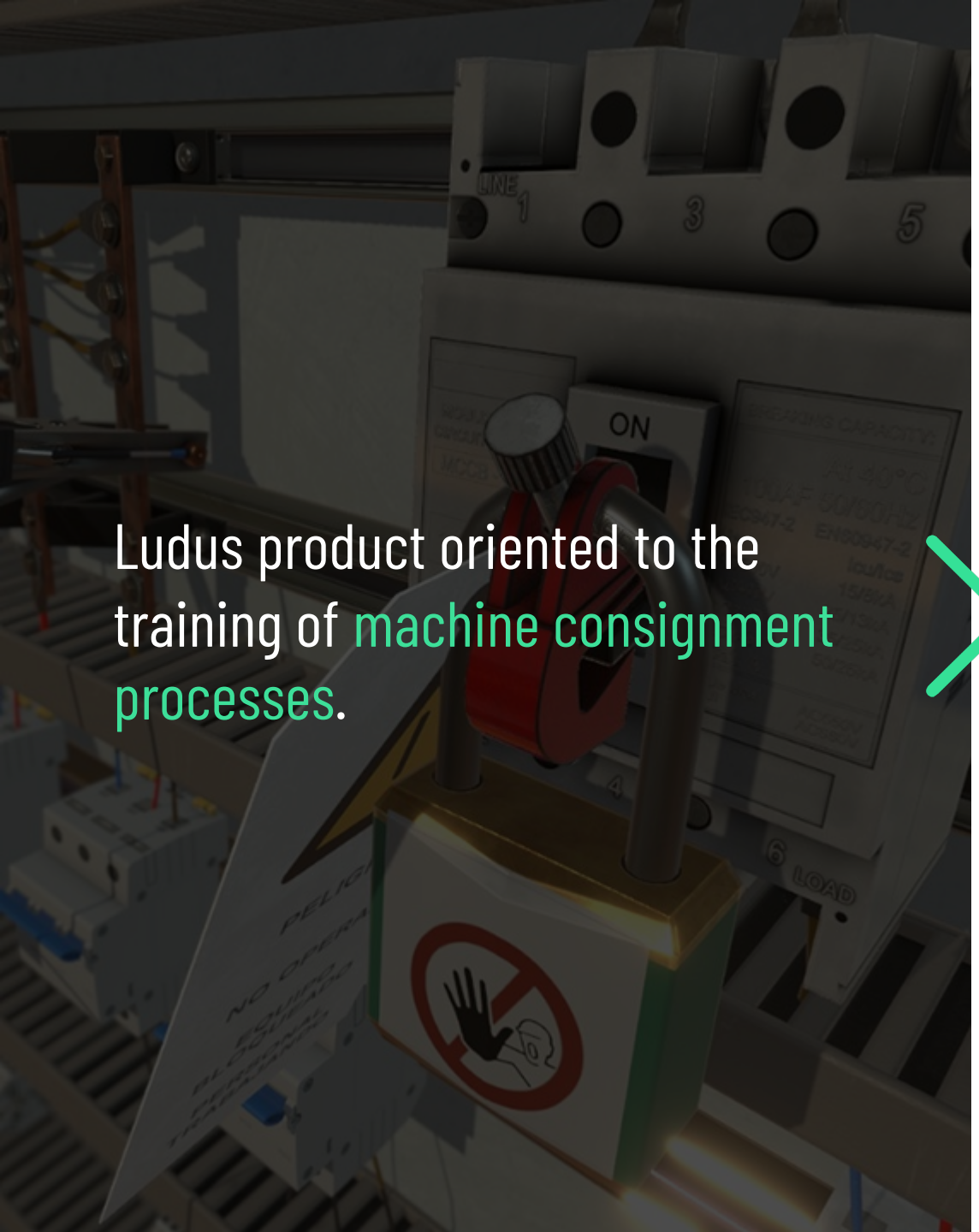
Technical Sheet

Ludus

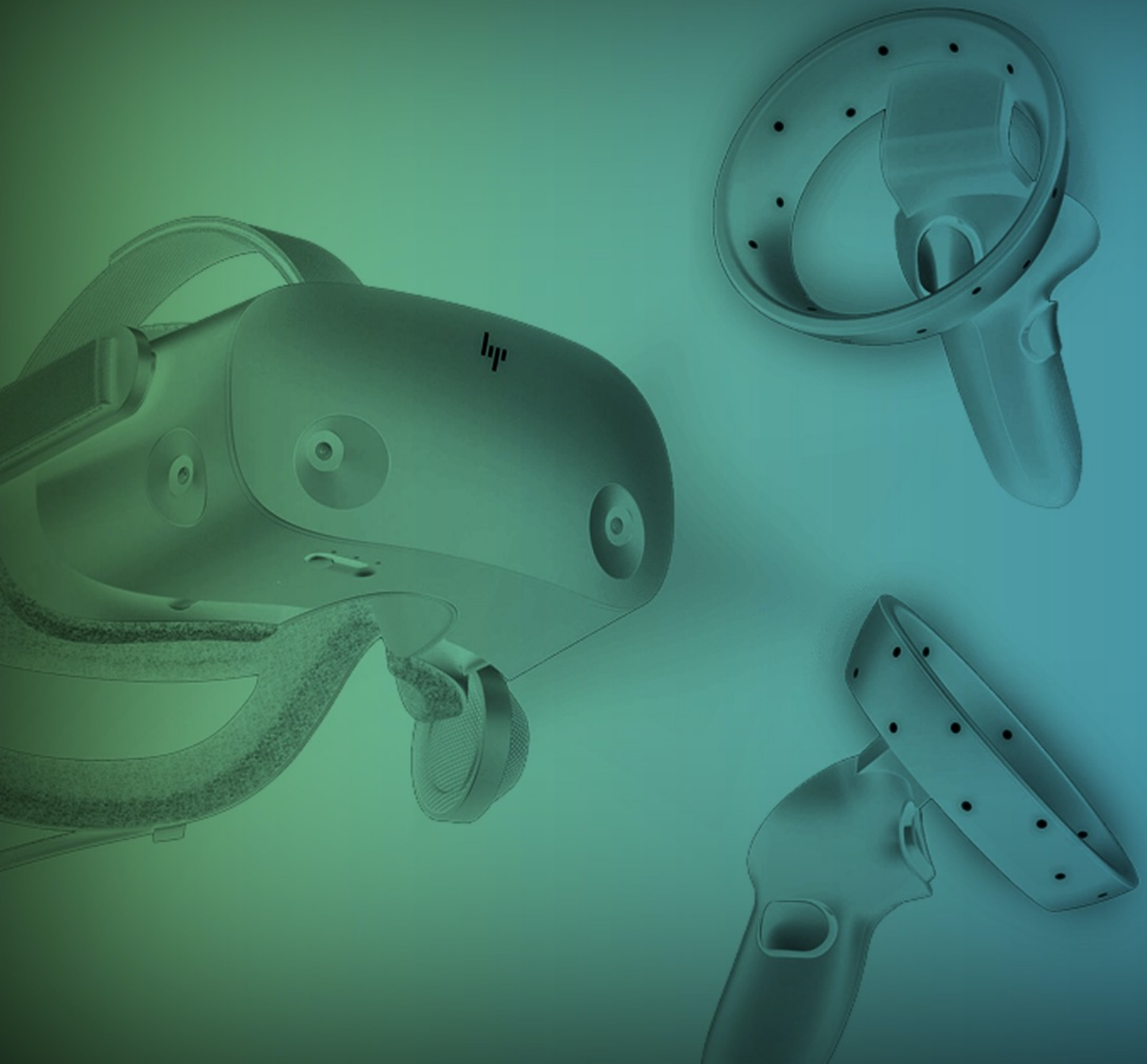
LOTO



Ludus product oriented to the training of machine consignment processes.

LOTO

- The purpose of the user is to **perform the procedures safely and avoiding risks**.
- The simulation serves both to explain the consignment process and security measures, and to test the knowledge acquired by the user.



01

Simulation content

Simulation content

Types of Trainings

The trainer will be able to use **LOTO process** training simulation to train students in two different ways:

Guided

- Students learn autonomously, through clues deployed by the simulation itself.
- More focused on the early stages of knowledge acquisition.
- Simulation evaluates decision-making and mistakes made.

Practical

- The Student must practice the knowledge acquired to carry out the LOTO process.
- More focused on testing the knowledge gained, and strengthening the process of assimilation/adjustment of information.
- Simulation evaluates decision-making and mistakes made.

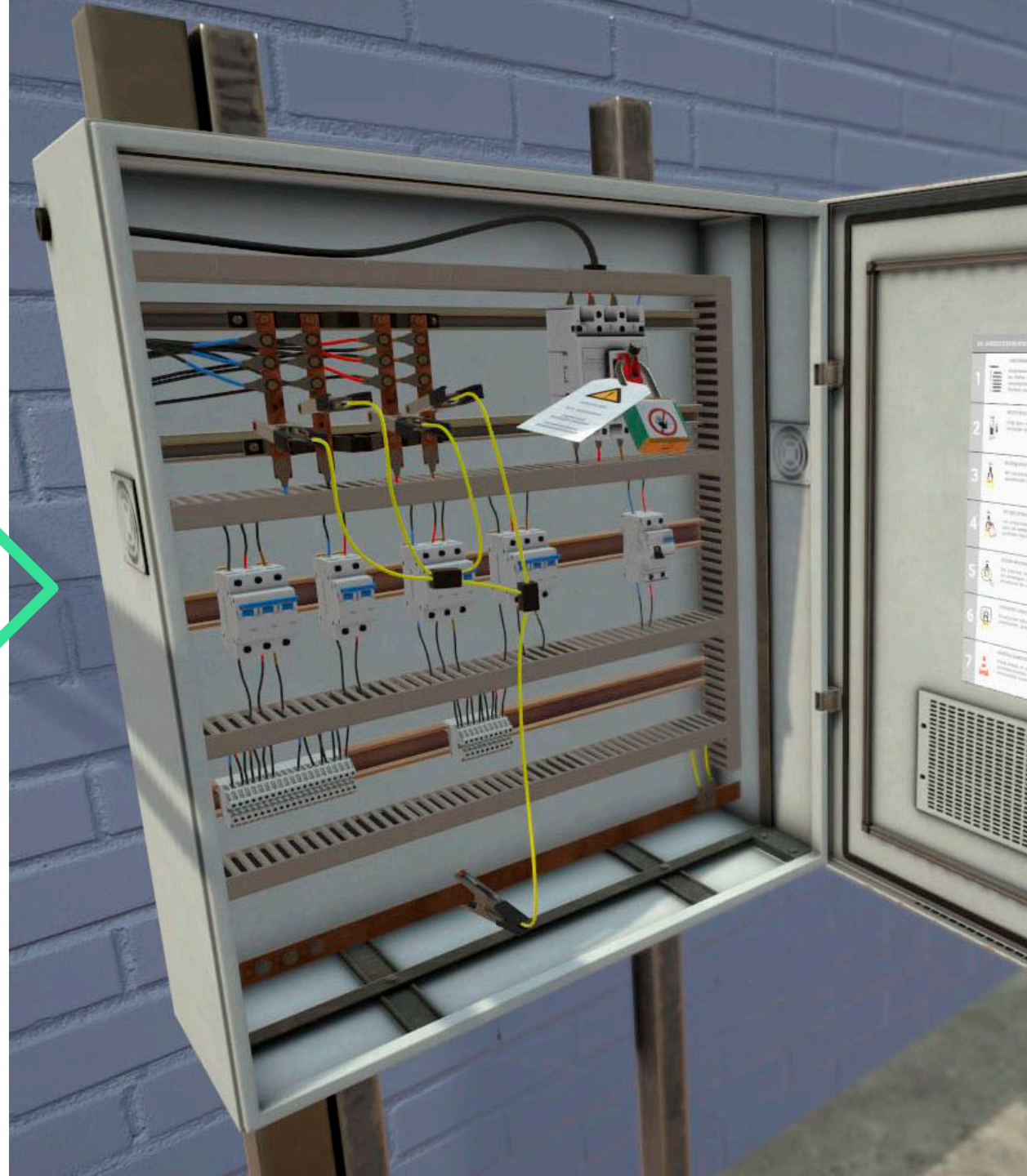
Simulation content

Exercise 1: Electric Power Maintainance

The student is located in front of an electric cabinet in which he/she must work the electrical energy following the **5 Golden Rules**.
The student must complete the following actions

- Use the necessary PPEs for the process.
- Interrupt the electrical energy into the gearswitch. Lock the disconnector elements and signal them.
- Check using a measurement tool.
- Derive the system to ground and in short-circuit.
- Perform the maintenance task entrusted
- Unlock disconnector elements.
- Reestablish the electrical power and check it.

The student **may suffer an accident** in the event that he/she performs the maintenance without having carried out the LOTO process correctly. This accident creates a good opportunity for the trainer to show the consequences of an incomplete LOTO process.



Simulation content

Exercise 2: Pneumatic Energy Maintainance

The student is located in front of a **work table** where there are different tools connected to the pneumatic system.
The student must complete the following actions:

- Use the necessary PPEs for the process.
- Interrupt the pneumatic energy using the general pass-through wrench.
- Lock the pass-through key and signal it.
- Checking the power dissipation on the system pressure gauge.
- Perform the maintenance task entrusted
- Unlock sectioning elements.
- Rearm the pneumatic energy and check it on the pressure gauge.

The student may **suffer an accident** in the event that he/she performs the maintenance without having carried out the LOTO process correctly. This accident creates a good opportunity for the trainer to show the **consequences** of an incomplete LOTO process

Simulation content

Exercise 3: Hydraulic Energy Maintainance

The student is located in front of high-pressure accumulators of a hydraulic system that must be consigned.
The student must complete the following actions:

- Use the necessary PPEs for the process.
- Interrupt hydraulic energy using the general pass-through wrench.
- Lock the pass-through key and signal it
- Dispel accumulated energy in pressure accumulators Checking the energy dissipation on the pressure gauges.
- Perform the maintenance task entrusted
- Unlock sectioning elements.
- Rearm pneumatic energy, power accumulators and check it on the pressure gauges.

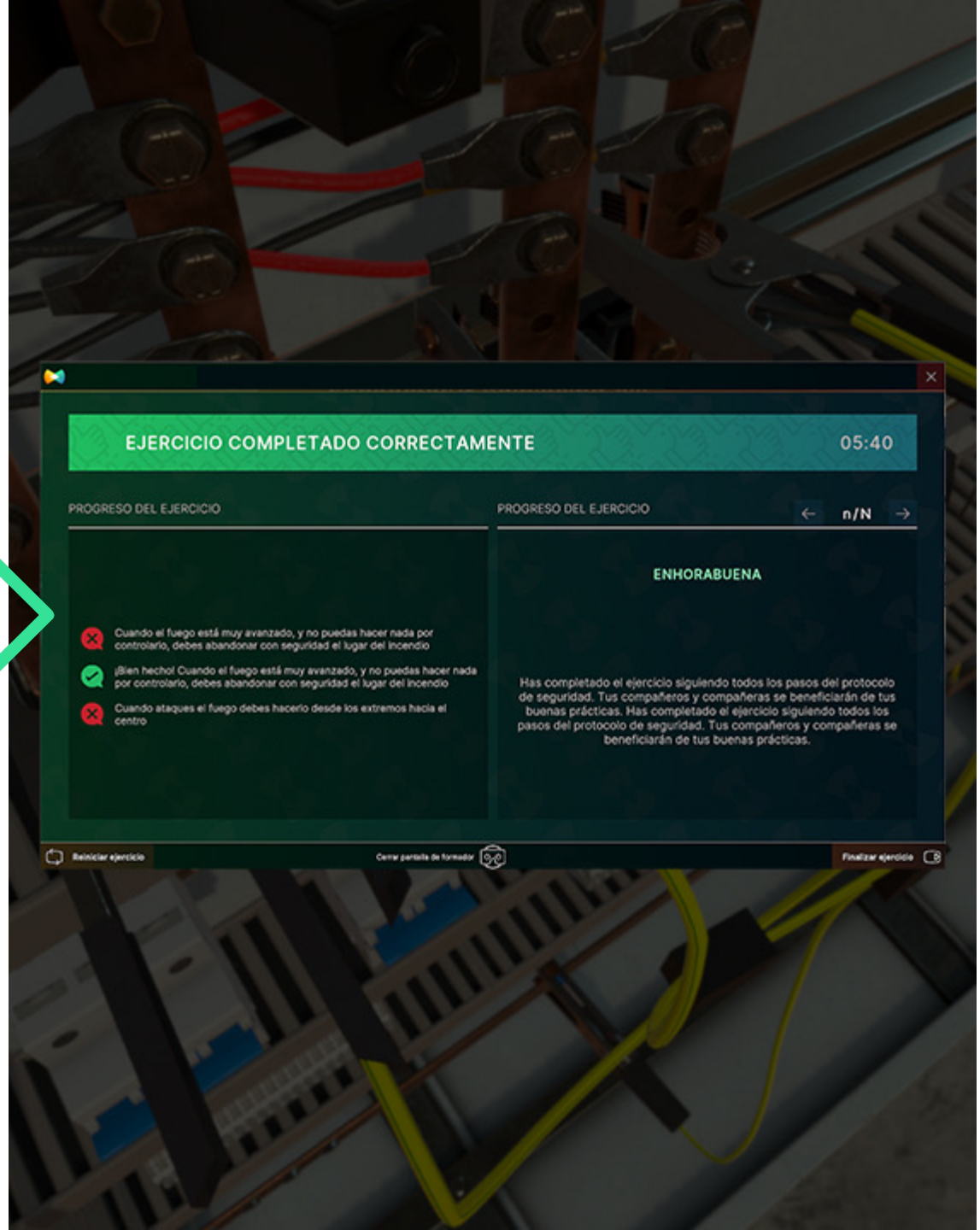
The student may **suffer an accident** in the event that he/she performs the maintenance without having carried out the LOTO process correctly. This accident creates a good opportunity for the trainer to show the **consequences** of an incomplete LOTO process.

Estadísticas básicas

Statistics Syste

Basic statistics displayed to the user at the end of the simulation

- Duration of the exercise.
- List of mistakes made.
- Cause of accident.
- Errors in PPEs selection.
- Approved/Not Approved.

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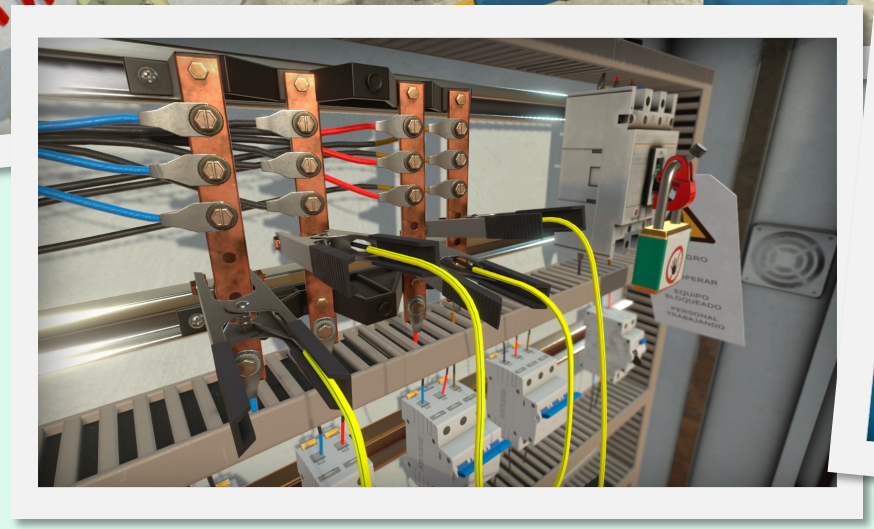


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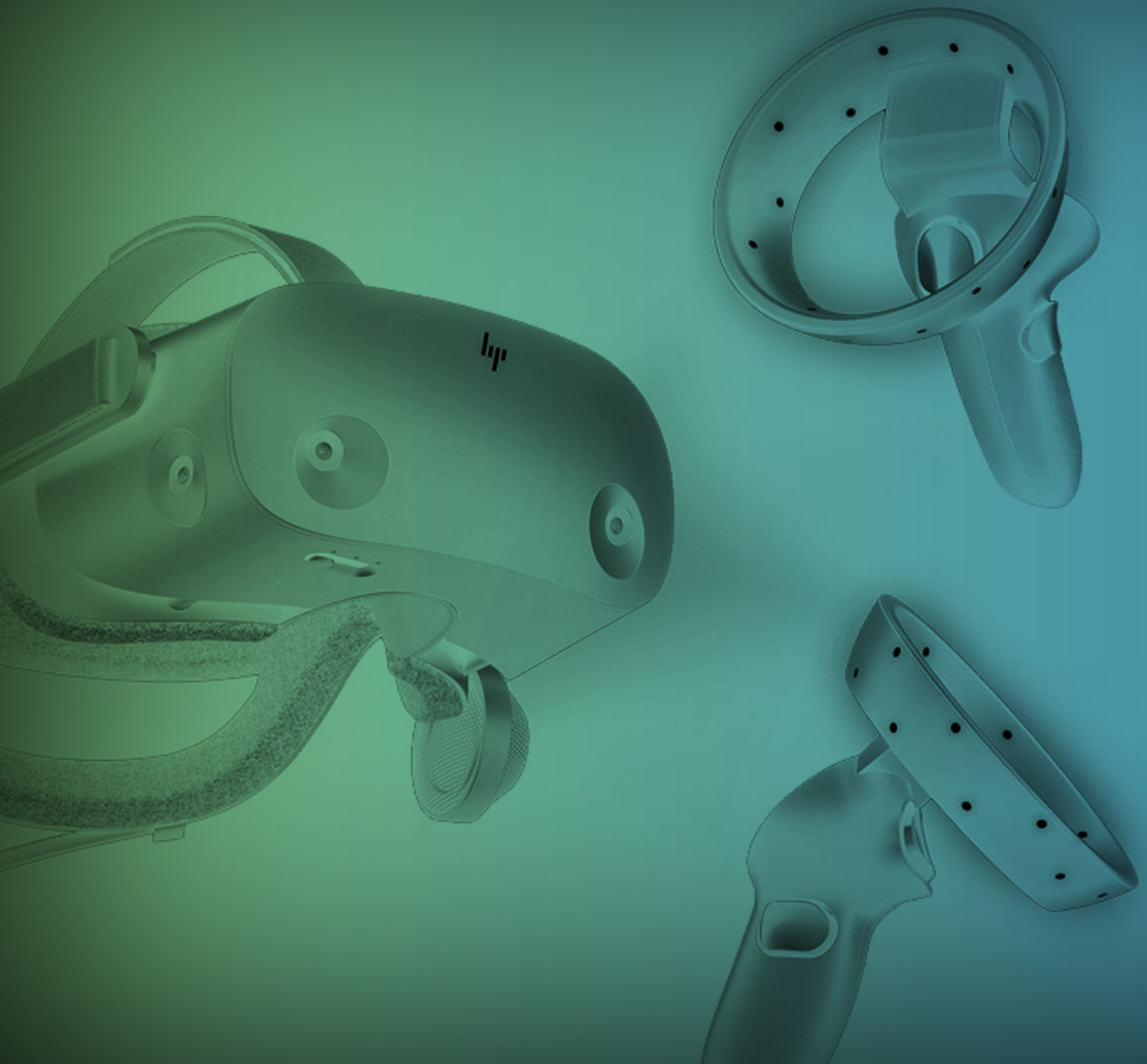


02

Future updates

Future updates

Exercise: Multiple Energy Maintainance

This exercise reproduces the **consignment of several energies at the same tim**e. The user must perform the LOTO process of all the energies involved.
The student must complete the following actions:

- Use the necessary PPEs for the process.
- Interrupt the energies.
- Lock the sectioning elements and signal them.
- Dispel waste energy.
- Checking the power drain.
- Perform the maintenance task entrusted
- Unlock sectioning elements.
- Reestablish electricity

The student may **suffer an accident** in the event that he/she performs the maintenance without having carried out the LOTO process correctly. This accident creates a good opportunity for the trainer to show the consequences of an incomplete LOTO process.

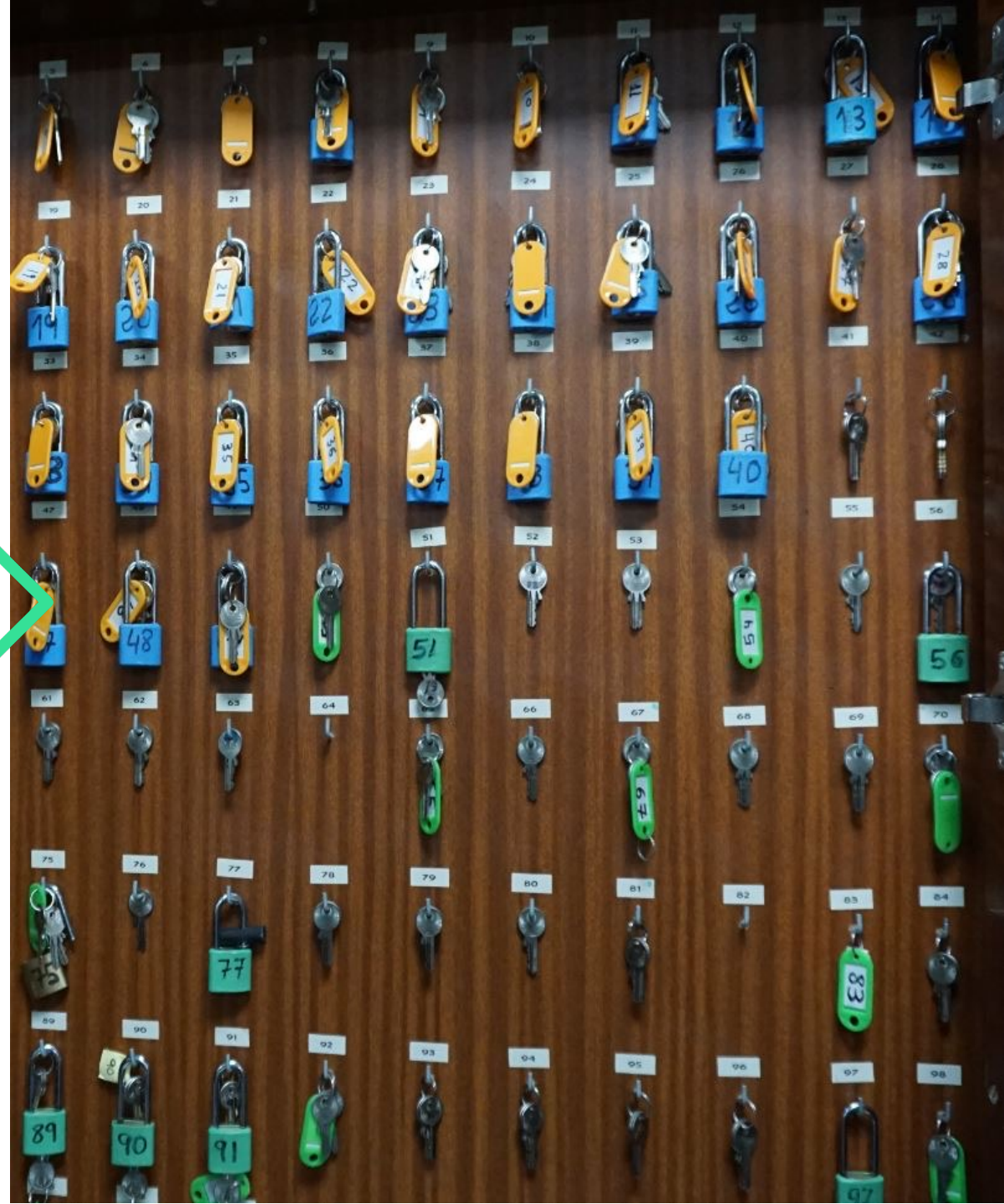
Future updates

Exercise: Group Maintainance

The student must perform group consignment in processes involving other roles.
The student must complete the steps of the LOTO process for the energy included in the operation
In addition to the steps to perform a LOTO, the dynamics required in the consignment at the group level are included:

- Signaling operations.
- Work permits, consignment records, etc.
- Management of padlocks of multiple stakeholders.
- Communication between stakeholders.
- Rearm tests.

The student may **suffer an accident** in the event that he/she performs the maintenance without having carried out the LOTO process correctly. In addition, accidents may also occur to other participants in case of making mistakes in the process. Both accident scenarios create a good opportunity for the trainer to show the **consequences** of an incomplete LOTO process.



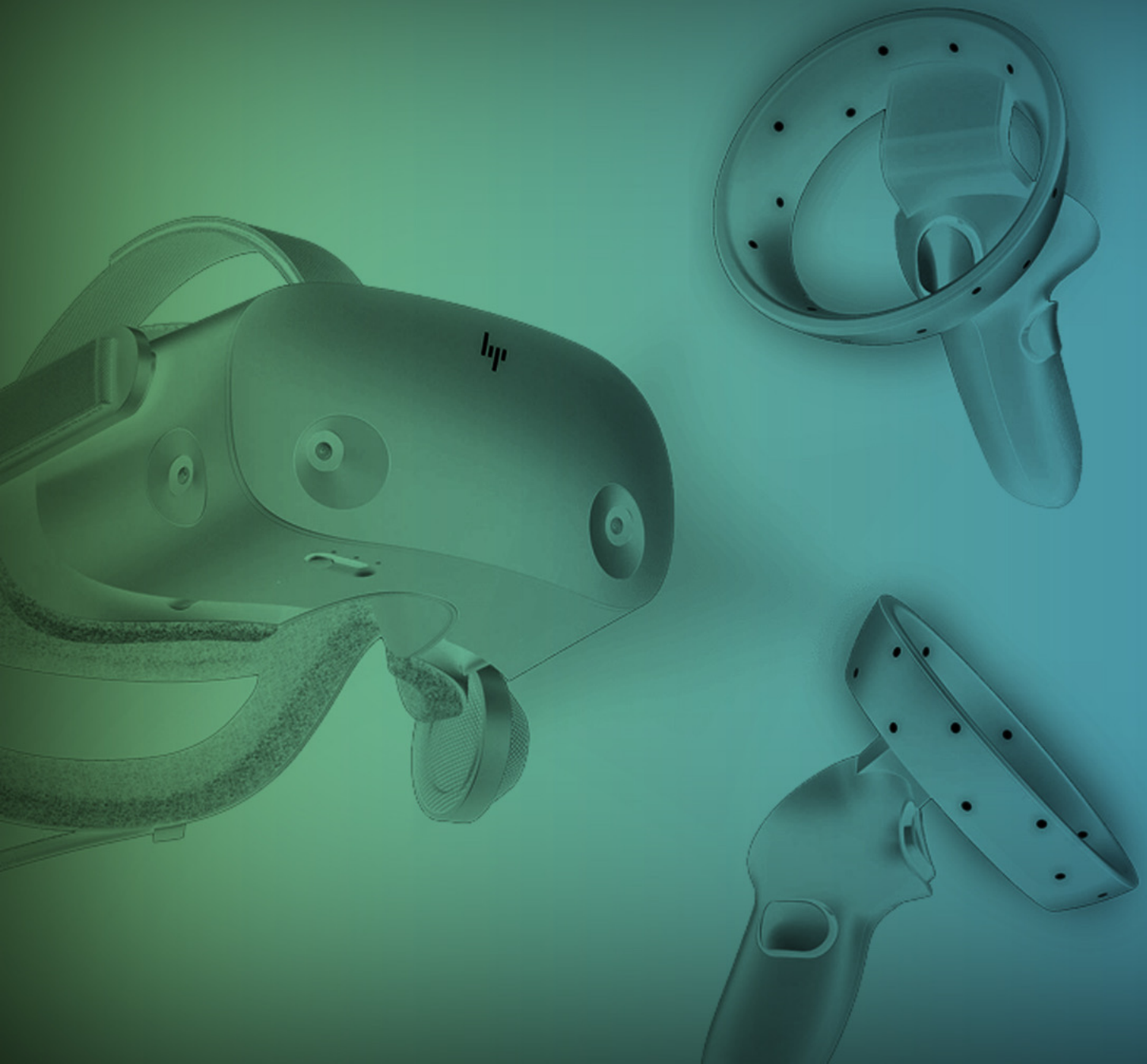
Future updates

Maintainance of Other Energies

These exercises will represent LOTO processes with **energies** such as:

- Gravitational energy.
- Mechanical energy (Potential and kinetics).
- Chemicals (liquid and gas).
- Thermal energy.

The student must complete the steps of the LOTO process correctly. The student may experience accidents.



03

All trainings,
one platform

First European Platform

for realistic training in **labor and health security** with Virtual Reality

Platform advantages

Content access
Living products in continuous improvement

Teacher training
Pedagogical support for teachers in the use of VR

Hardware
at **cost price**

Learn by Living

Improve your classes on safety and health, adding an inmersive component to the trainings

20 complete products with more than 500 exercises.

Trainer

- Road safety
- Plant risk prevention
- Fall protection
- Safety officer at heights
- CPR
- Overhead Crane
- PPE. Personal Protective Equipment
- Warehouse safety
- Plant risk assessment
- Electrical hazards
- LOTO
- Fire safety
- Confined Spaces
- Safety in construction
- Mobile elevating work platforms
- Postural ergonomics
- Forklift risks
- Hand Injury Prevention
- Use and Handling of FHCs
- First aid

We are continually adding **new updates** and content to the platform

Calendar

of incorporation to Ludus

01

Demo

Product demonstration.
Financial proposal presentation.

02

Suscription

Platform hiring.
Reception of the material.

03

Onboarding

Welcome pack.
Commercial arguments.
Graphic resources.
Marketing sheets.
Video tutorials.
Training for trainers.

04

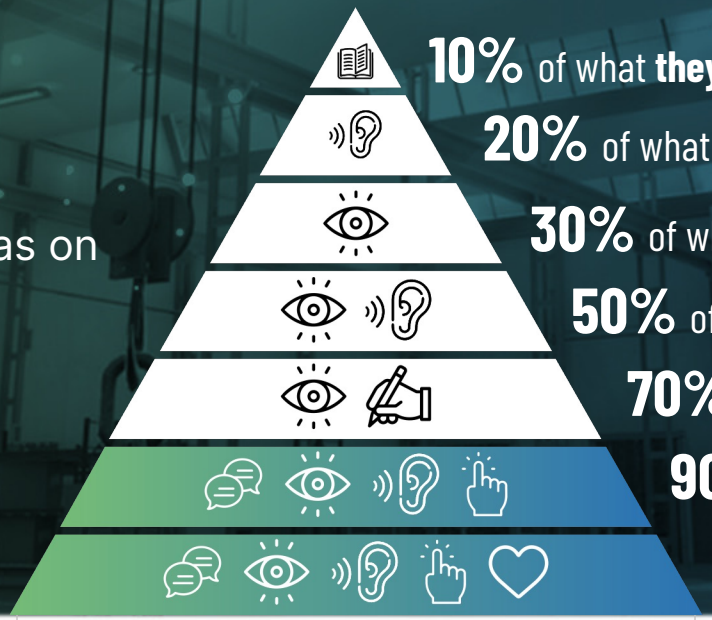
VR training

Unlimited use of the training resources available on the platform.
Platform maintenance and update.

Why VR?

The impact that virtual reality has on learning is **remarkable**

People remember...



10% of what **they have read**

20% of what **they have listened**

30% of what **they have seen**

50% of what **they have seen and listened**

70% of what **they have seen and written**

90% of what **they have done**

95% of what **they have done and felt**

Active learning

Based on Edgar Dale's Pyramid of Learning

VR learners are...

4 times

Faster at learning than in a conventional classroom

3.7 times

More connected to the content than learners in a classroom

2.3 times

More connected to the content than learners in e-learnings

4 times

More concentrated and focused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