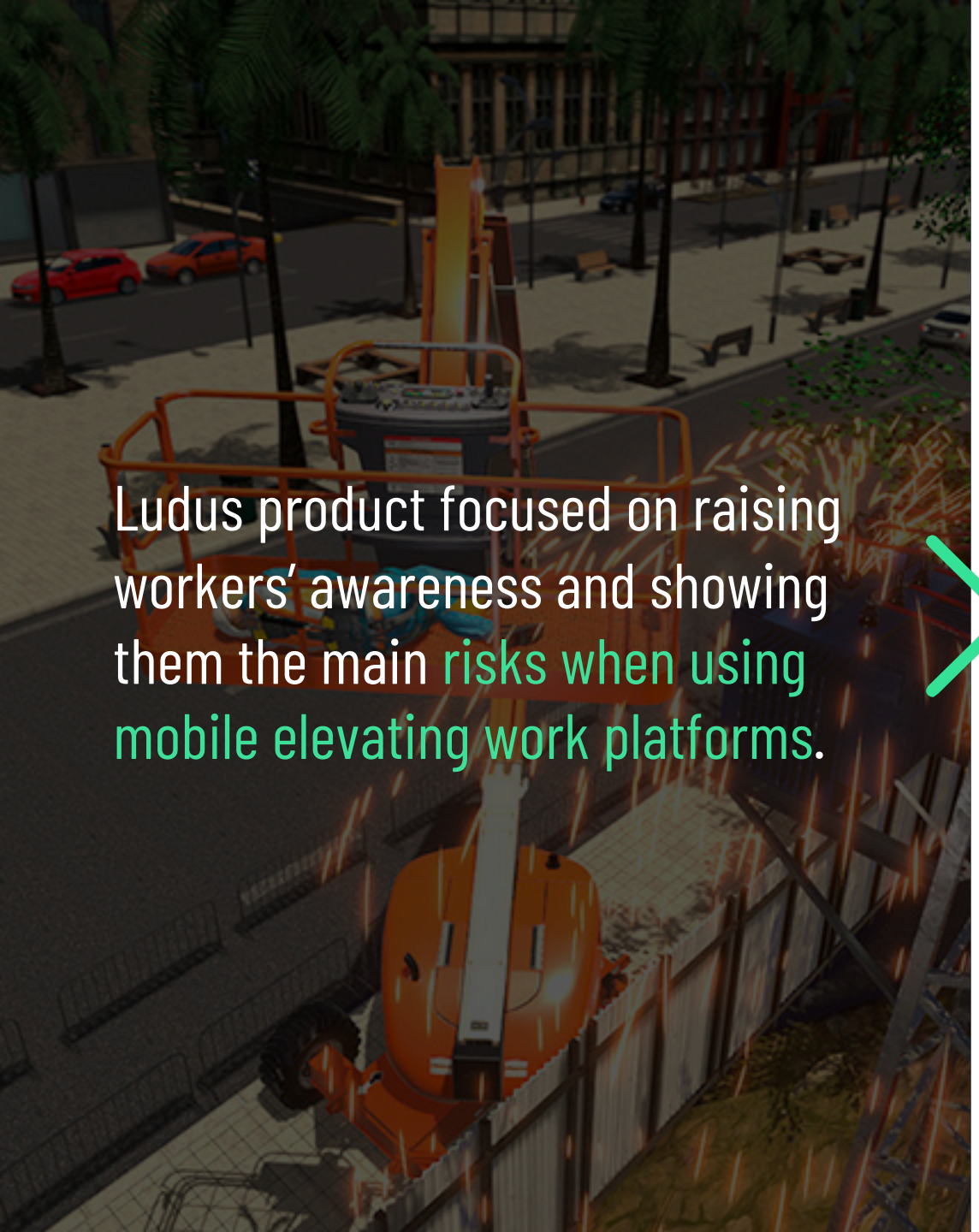
# Technical Sheet

Ludus

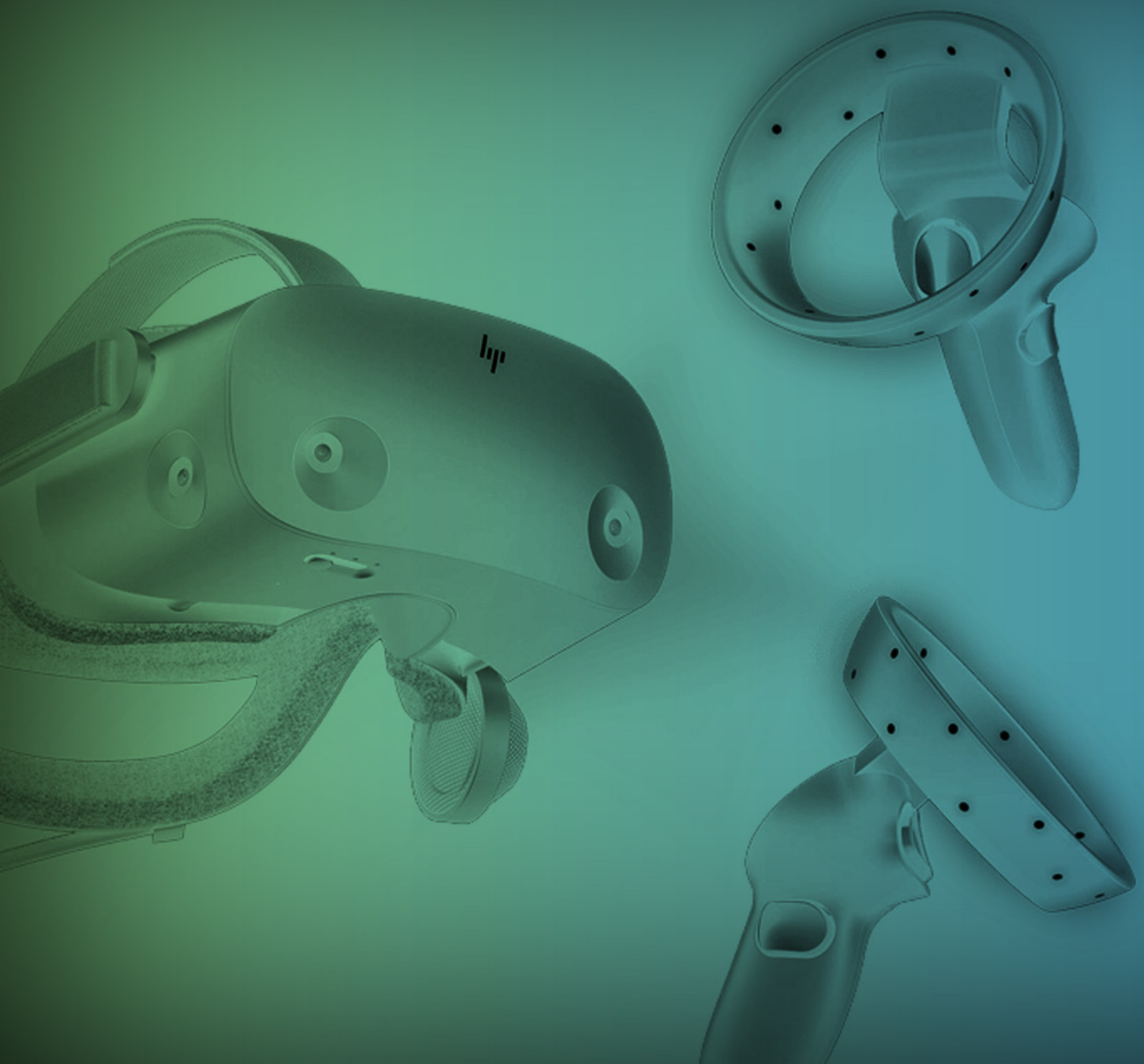
*Mobile elevating work platforms*



Ludus product focused on raising workers' awareness and showing them the main risks when using mobile elevating work platforms.

## *Mobile elevating work platforms*

- The goal is to provide the trainer with a virtual scenario where the student can recognise the most common risks when using a mobile elevating work platform (MEWP) and **experience their consequences**.
- The student will witness several hazardous situations and perform routine tasks where risks may be involved.
- The student may be evaluated through questions regarding the accidents or situations they have experienced.
- This product covers hazards related to **PPE**, general safety rules and signalling.



# 01

## Simulation content

Product Description

# Training Objective

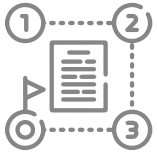
The trainer can set up two types of exercises: the open exercise and the risk situations exercise.

**Open exercise**.
The aim of this exercise is to provide the trainer with a scenario in which the trainee can:

- Visualise the different parts of the MEWP
- Check the content of the MEWP signage stickers

**Risk situations exercise.**
The aim of this exercise is to provide the trainer with different risk situations in which the trainee must:

- Perform tasks related to the use of MEWPs.
- Experience different risk situations at first hand
- Observe how other workers cope with risk situations.
- Answer questions related to the accidents or situations they have experienced.

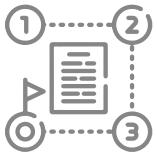


Product Description

# Dynamic – Open exercise

The **open exercise** is prepared to be used following these steps:

1. The trainer selects the **open exercise.**
2. The trainee puts on the virtual reality goggles and walks around a MEWP and views the **different components** of the MEWP.
3. When the trainee looks at the MEWP's signage and **safety stickers**, they are enlarged so that they can be read by the trainee and the rest of the classroom.
4. The trainer can use the open exercise to explain the **MEWP components** and **signage to the class.**



Product Description

# Dynamic – Risk situations exercise

The **Risk situations exercise** is prepared to be used following these steps:

1. The trainer selects the risk situations they want to demonstrate in the classroom.
2. The student puts the virtual reality headset on and experiences the risk situations that the trainer has previously selected.
3. After each risk situation, some feedback is given to the student and their colleagues.
4. The trainer can use this feedback to reflect on those risks and/or open up a group discussion.

Product Description

# Scenario and Platform Type

The first version of the MEWP product includes an **urban scenario** and **a self-propelled articulated boom lift** (Group B).

In future updates we are considering the possibility of adding other scenarios and other types of MEWPs with their associated risks.

# Risk situations included

## Use of PPE

The student much choose **suitable PPE** to access the mobile elevating work platform.

## Fall when climbing into the basket due to reckless behaviour

The learner will be asked to use a **ladder** in the platform basket.

## Inverted controls

The student must use the **controls** to move away from an area where there are parked cars. The turret will be turned 180º, so the controls will be inverted.

## Falling objects

It will be shown how a passer-by is hit by a tool that fell from the top of the mobile elevating work platform**.**
**The working area will not be signalled.**

# Risk situations included

## Electrical hazard by contact with the electricity grid

The mobile elevating work platform will be shown moving until coming into contact with the **electricity grid.**

## Fall caused by whiplash effect

It will be shown how, when going down sloped terrain, there is a **whiplash effect**.

## Overturning caused by collapsing ground

It will be shown how a mobile elevating work platform overturns after the manhole supporting it collapsed due to the machine's weight.

## Fall with a lanyard that is too long

It will be shown how **incorrectly anchoring** to the basket causes a factor 2 fall.

## Fall caused by using the extensible structure to climb down from the basket

It will be shown how a worker falls when climbing down the mobile elevating work **platform's extensible** structure.

## Fall caused by unsafe behaviour in the basket

- Se It will be shown how a worker suffers a fall **after climbing on the railing**.
- It will be shown how a worker suffers a fall after **using a ladder in the basket**.

# Risk situations included

## Overturning caused by tampering of the inclinometer

The overturning of a mobile elevating work platform on an incline that is too steep will be shown.
**The inclinometer has been tampered with.**

## Rollover due to excess weight

How the lifting platform tips over when used as a crane to move a bulky object will be shown.

## Rollover due to being hit by another machine

A lifting platform shall be represented as overturning when collided with by a forklift truck.
**The lifting platform will not be marked out.**

## Exercise duration

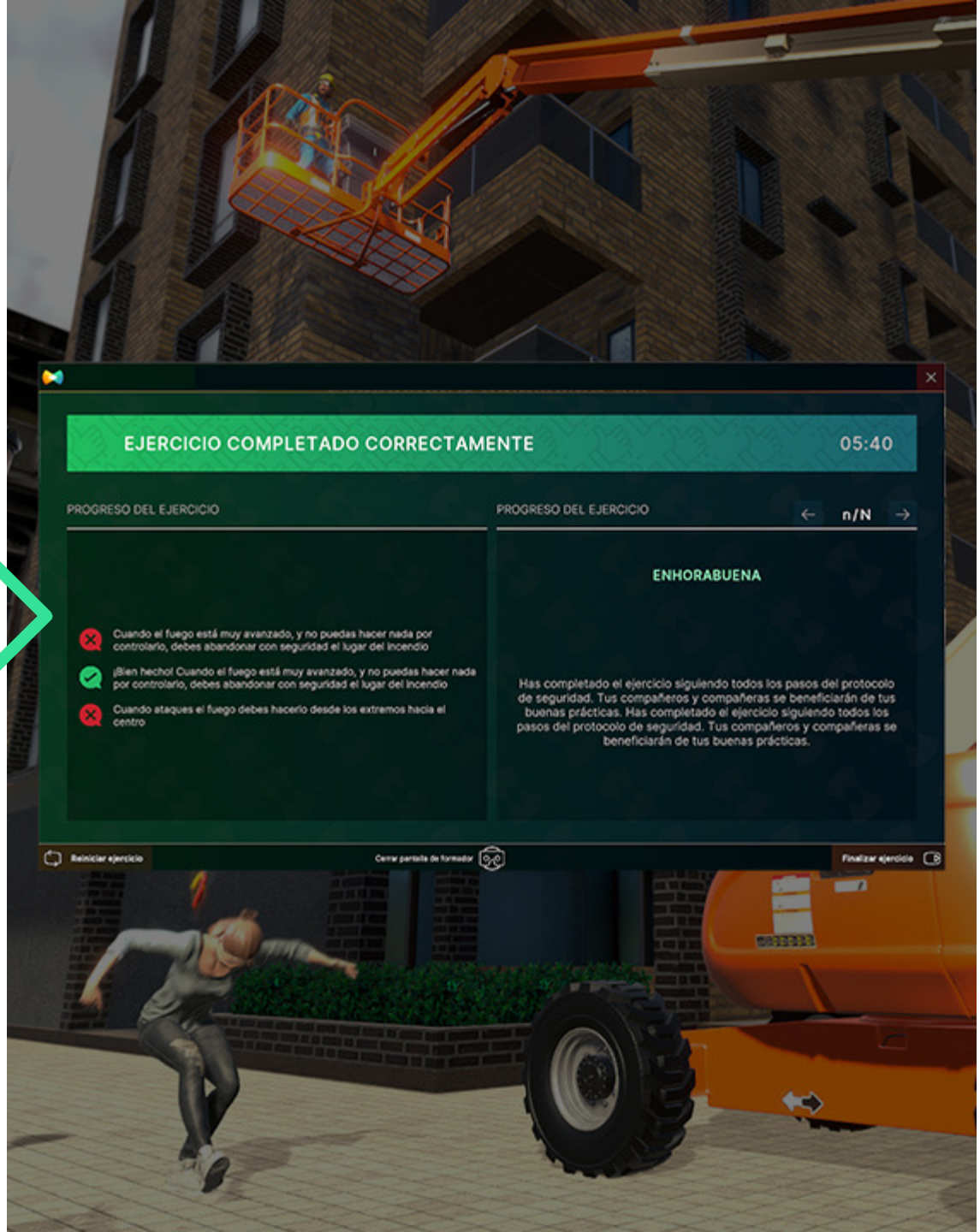
- The training completion time per student, using the MEWP product, depends on the **number of scenarios** configured by the trainer and the type of hazardous situation.
- The average time a student may need to experience a hazardous situation is **90**”
- If the exercise is taking too long, the trainer can finish the exercise and go straight to the results to check the mistakes made up until that moment.

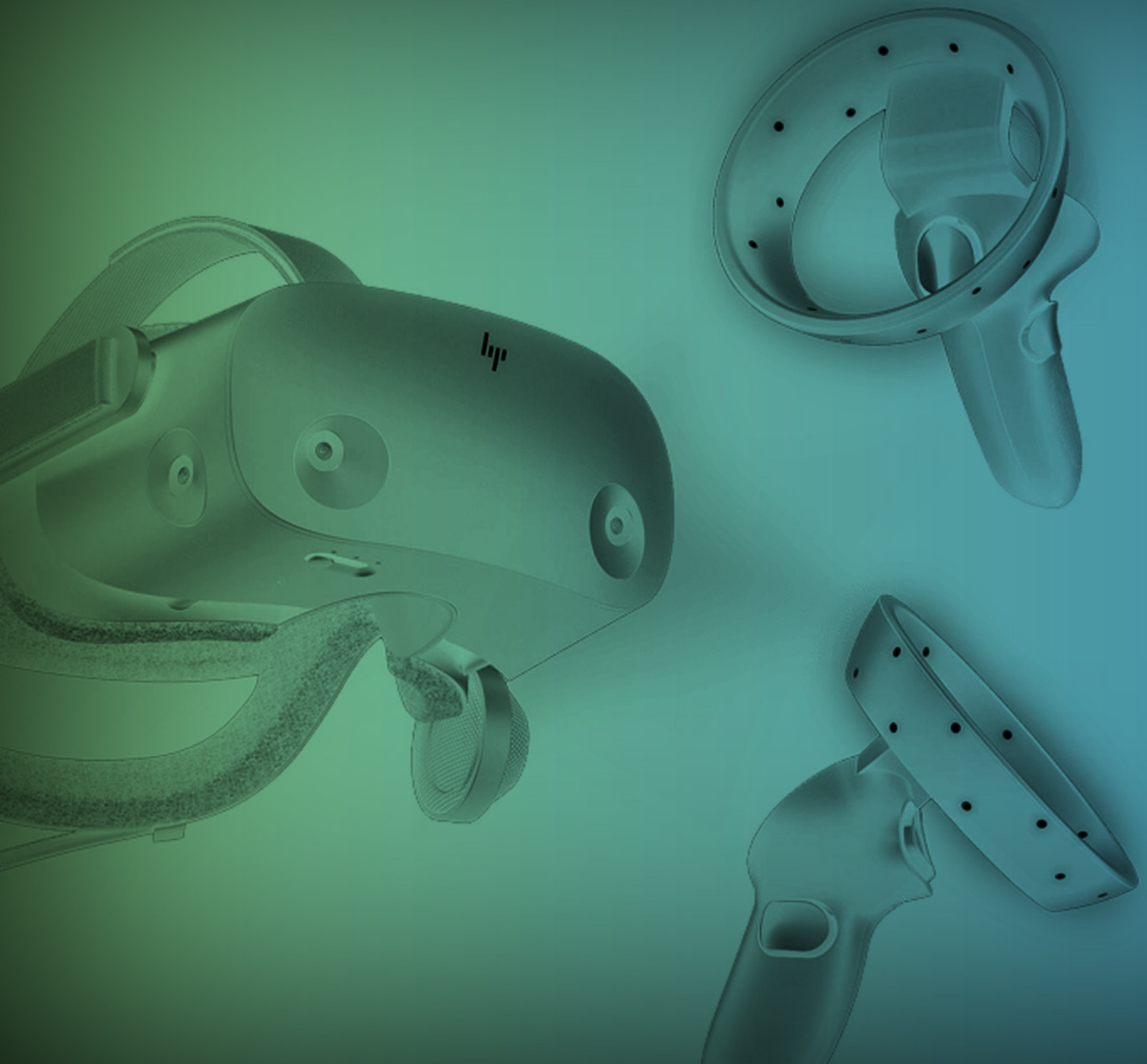
## Basic statistics

# Statistics System

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

- Exercise duration time
- List of mistakes





# 02

## Future updates

Future updates

# New risk situations

New risk scenarios related to an **urban setting** and a self-propelled articulated boom lift (Group B) could be added to this product.

Future updates

# New scenarios and MEWPs

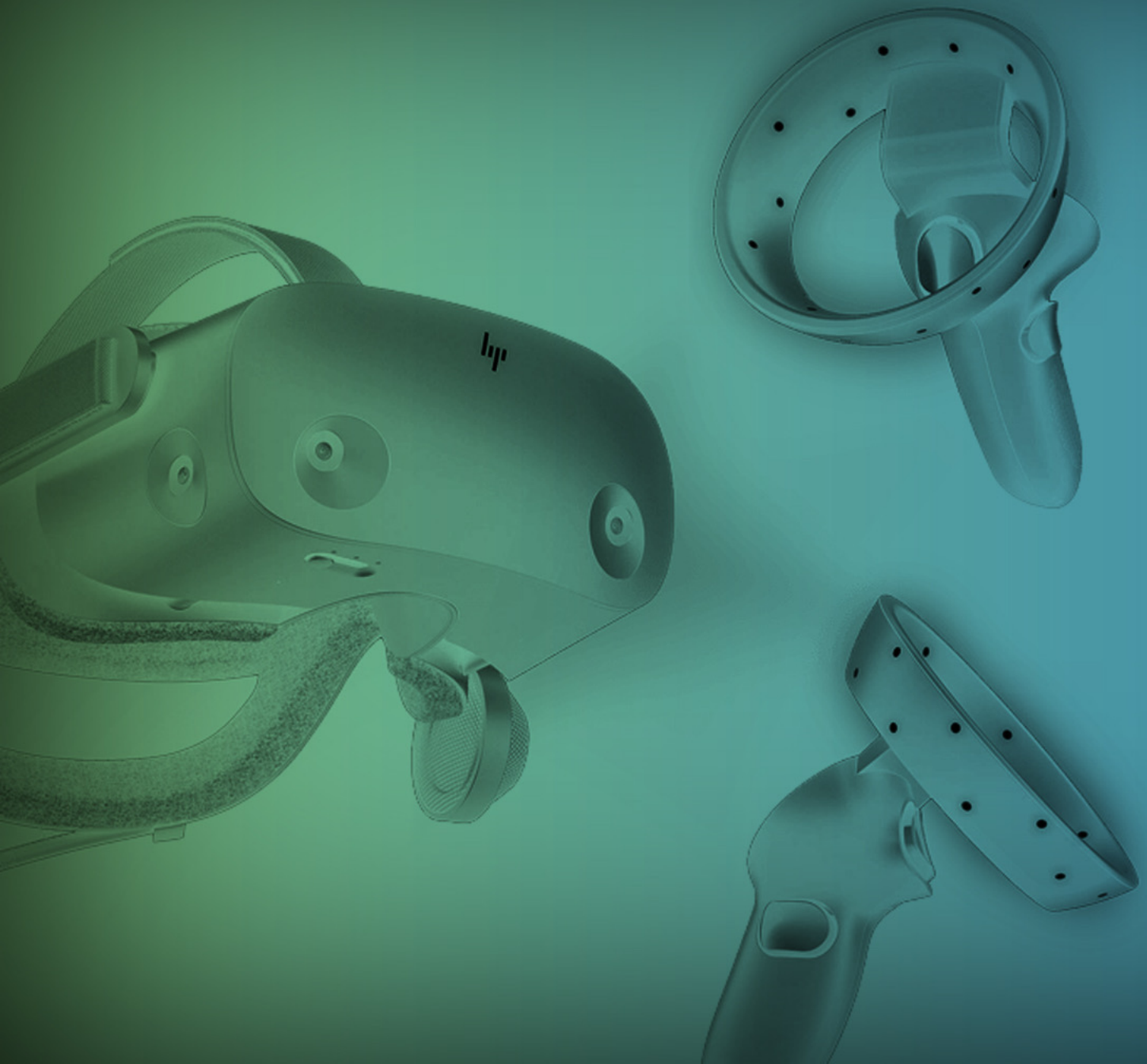
New scenarios with associated risks could be included in this product, for example:

- Construction scenario
- Industrial scenario

**New types of MEWP** could be included in this product, such as:

- Scissor lift platform (Group A)
- Vehicle mounted platforms
- Single-person platforms
- Towable platforms
- Diesel-powered platforms


MANTÉN EL GATILLO Y MUEVE
ADELANTE O HACIA ATRÁS PARA
MOVER LA MÁQUINA



# 03

All trainings,
one platform

# First European Platform

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

## *Platform advantages*

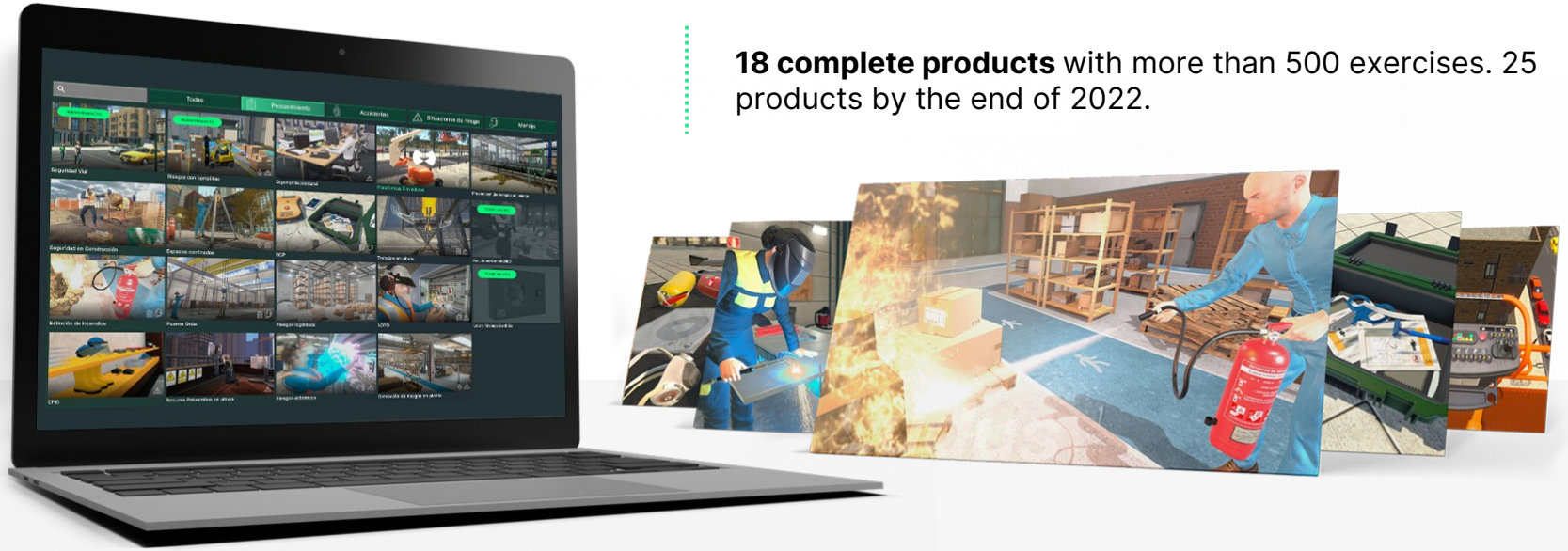
**Content access**
Living products in continuous improvement


**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



**18 complete products** with more than 500 exercises. 25 products by the end of 2022.

- Road safety
- Factory risk prevention
- Work at height
- Preventive resource in height
- CPR
- Bridge crane
- Individual protection equipment
- Logistic risks
- Factory risk detection
- Electrical risks
- LOTO
- Firefighting
- Confined spaces
- Construction safety
- Mobile Elevating Work Platforms
- Postural ergonomics
- Forklift risks
- Prevention of accidents in hands

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

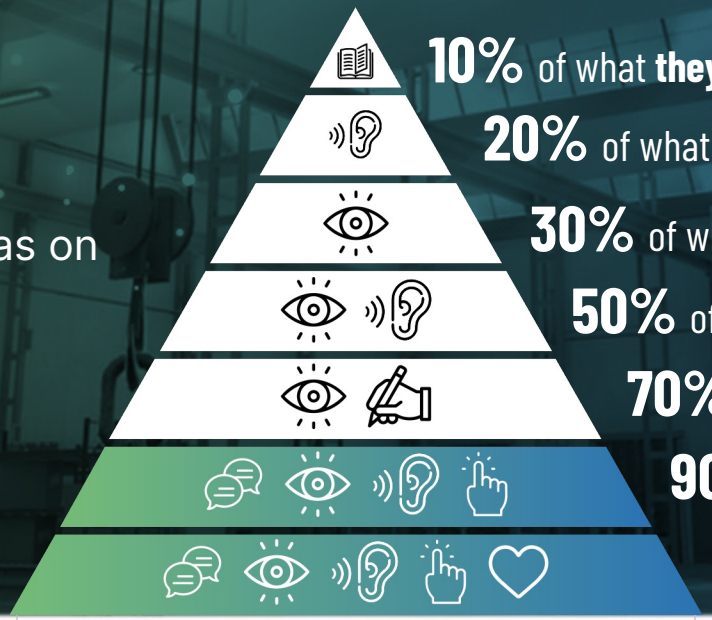
## VR training

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**


Ludus
Learn by Living
ludusglobal.com