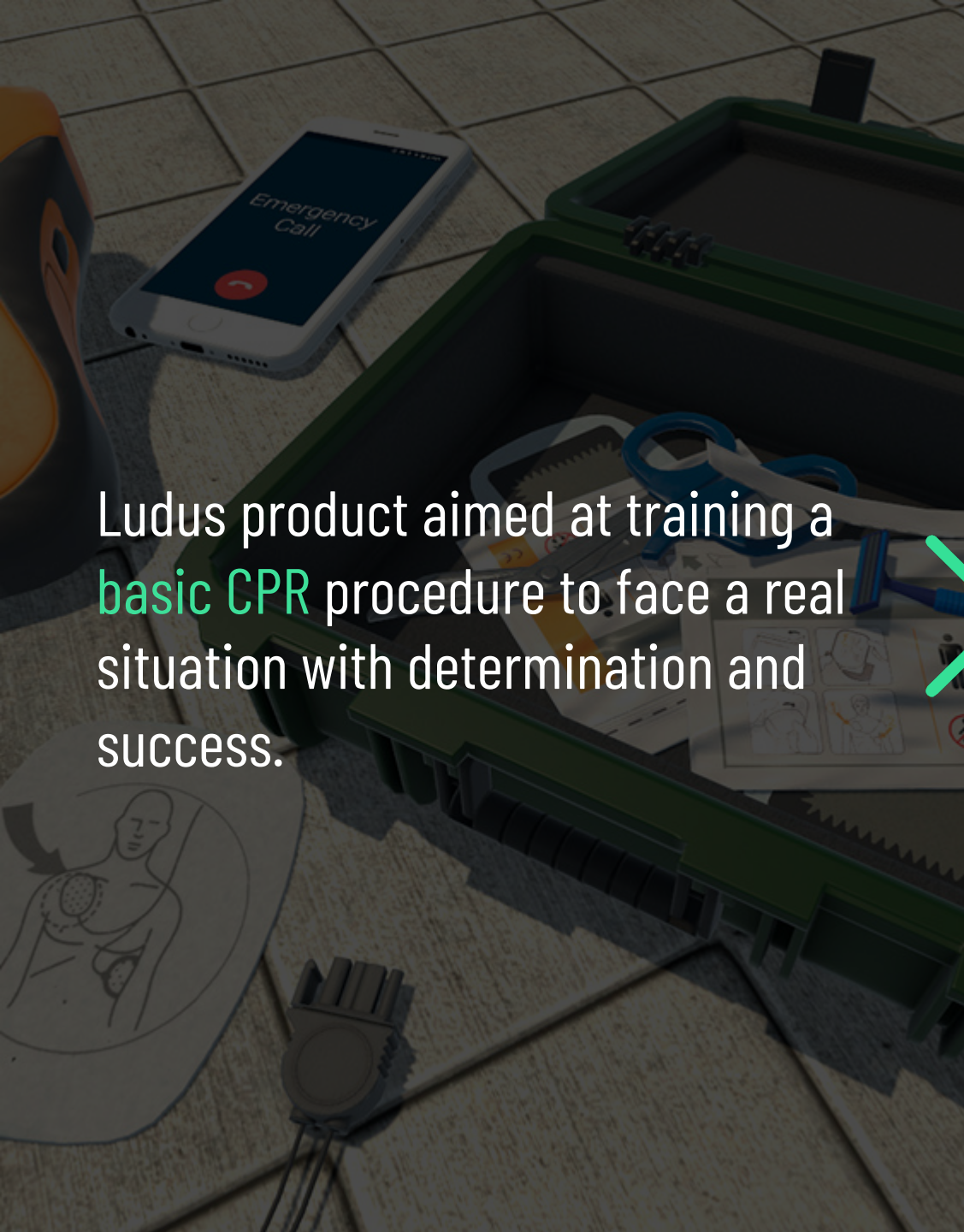


Technical Sheet



CPR



Ludus product aimed at training a **basic CPR** procedure to face a real situation with determination and success.



CPR. Cardiopulmonary resuscitation

- The objective is to offer the trainer a series of exercises or tasks in which risk situations related to the CPR procedure are represented.
- The student must make the **correct decisions** to correctly complete an exercise..
- All actions performed by the student will require the use of the **hands**.
- This simulation seeks to reduce a possible **psychological block** in a real emergency.



01

Simulation
content



Simulation Content

Instruction modes

Guided mode

The Guided mode offers clues to the student, indicating what **actions must be carried out** to complete the basic CPR algorithm correctly. It is conceived as a tool to reinforce the initial acquisition of knowledge and contact with the CPR algorithm.

Unguided mode

In the NON-Guided mode, the student must complete the basic CPR algorithm **without any indication**. It is designed to improve the processes of accommodation and assimilation of knowledge about the CPR algorithm.

- > In both cases, **the figure of the trainer is important**. The trainer is key to making the training more dynamic, answering questions and making points.
- > Both modes allow **group training**. In a classroom with several students, those who are not using the tool directly will be able to see their classmate's performance in real time. **Learning is continuous**.
- > The trainer will be able to activate different **situations in real time**. This will allow the trainer to recreate **unexpected situations**, in which the student will be put to the test.



Content simulation

Hand Positioning

.....

This training tool uses the latest technology in hand tracking. **The student does not need controls to interact.**

The hand tracking system allows:

- Manipulate objects easily.
- Use the **Defibrillator** and all its functionality.
- Interact with the patient to complete the steps of the Basic CPR algorithm.





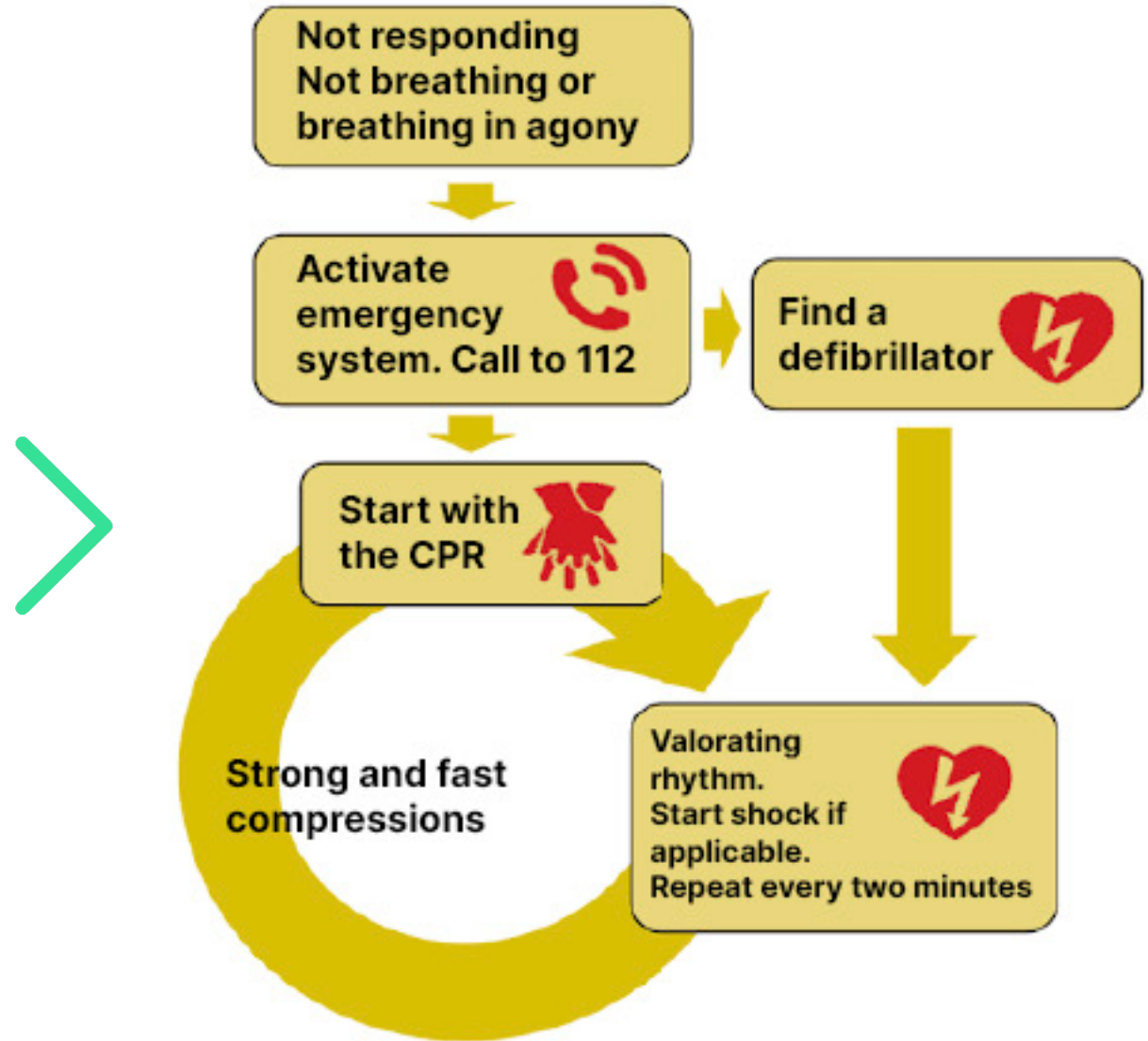
Content simulation

Basic CPR Algorithm

This tool faithfully recreates the Basic CPR algorithm and evaluates the student based on their performance.

Algorithm steps:

- > Check the patient's **consciousness**.
- > Open the airways and check **breathing**.
- > Call the **emergency** service.
- > Find/Request a **AED**.
- > Perform **cardiac massage**.
- > Follow the **DEA's** instructions.





Simulation content

Heart massage

HARDWARE AND SOFTWARE

This training tool uses a certified CPR training bust.

- The **bust is connected to software** of the tool.
- The student performs the cardiac massage on the bust itself.
- The tool detects the student's **compressions** and offers information so that the student can make the appropriate corrections.
- The depth and rhythm values collected by the bust are shown to the student and the rest of the class in real time.
- In addition, the values of depth and rhythm in compressions are registered in the system and are used for the evaluation of the student.



Simulation content

Automatic defibrillator

- During training, the user can use a virtual AED that simulates 100% all the functionalities of a real AED.
 - Detects if the patient is conscious and/or breathing; in addition to the type of breathing (for example, Gaspings).
 - It detects movements in the patient. For example, when the student touches it.
- The AED offers the student precise instructions based on the patient's condition:
 - Instruct the student not to touch the patient during the analysis.
 - Instructs the student to deliver a shock.
- It has two **electrodes** that the user must place on the patient's chest and side for proper operation.
- Different situations can be configured that affect the operation of AED.



Simulation content

Variability in the **DEA**

What can be configure?

Before starting the training exercise, different options can be configured that affect the operation of the AED.

- AED presence.
- AED without battery.
- Expired patches.
- Presence of scissors to cut clothes.
- Presence of razor.

These options increase the training possibilities, so that the trainer can **configure different training scenarios**, allowing the instruction to be adapted to the students.



Content Simulation

Other configurable options

What else can be configured?

In addition to the configuration alternatives that affect the AED, the trainer can use the following options:

- > **Patient with chest hair.** The student will need to remove it for the patches to work properly.
- > **Patient with a chain on his chest.** The student must remove it before administering a shock.
- > **Patient breathing.** The student must decide not to perform cardiac massage.
- > **Patient with agonal breathing.** The student must make the decision to perform the cardiac massage.

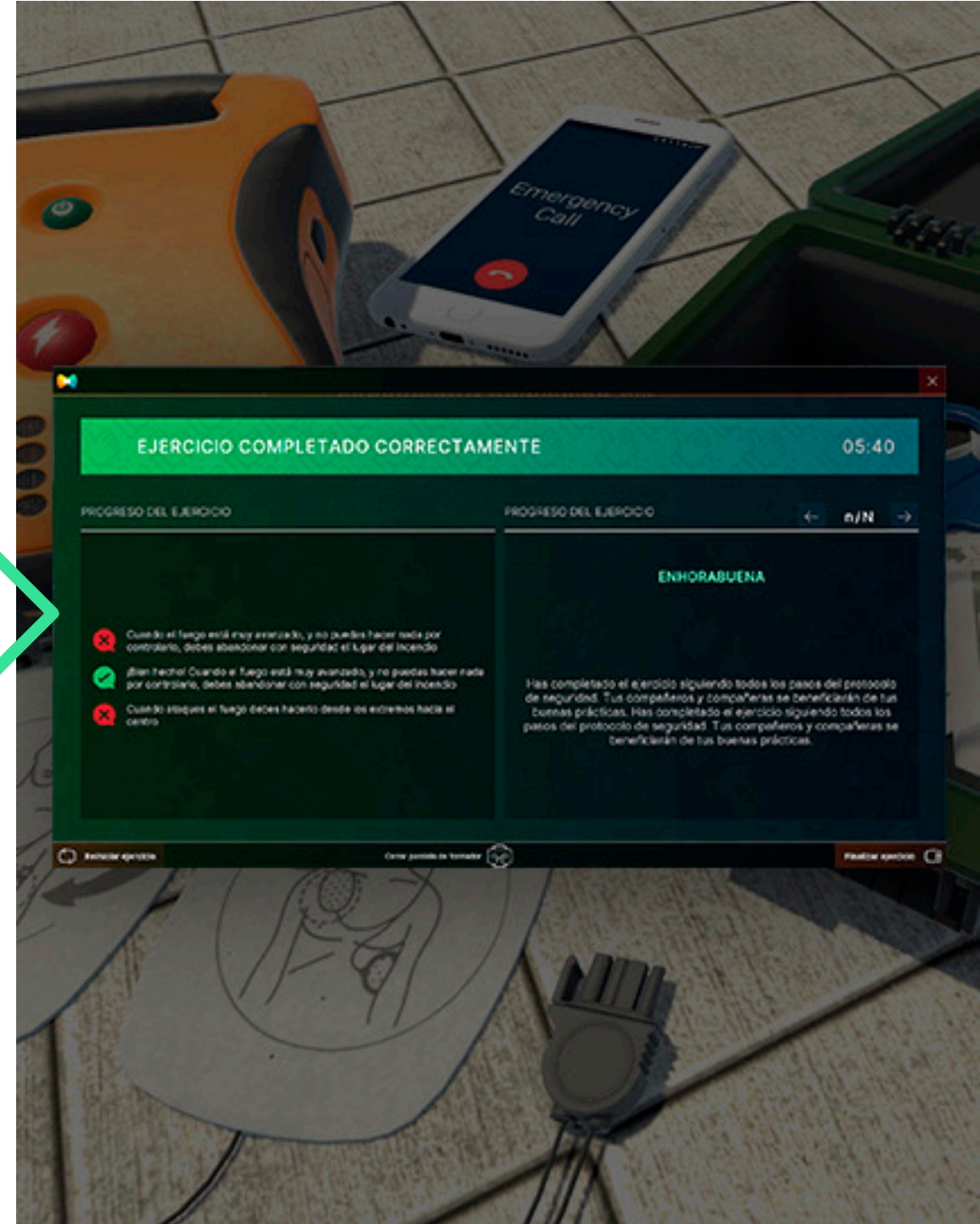




Basic Statistics Statistics System

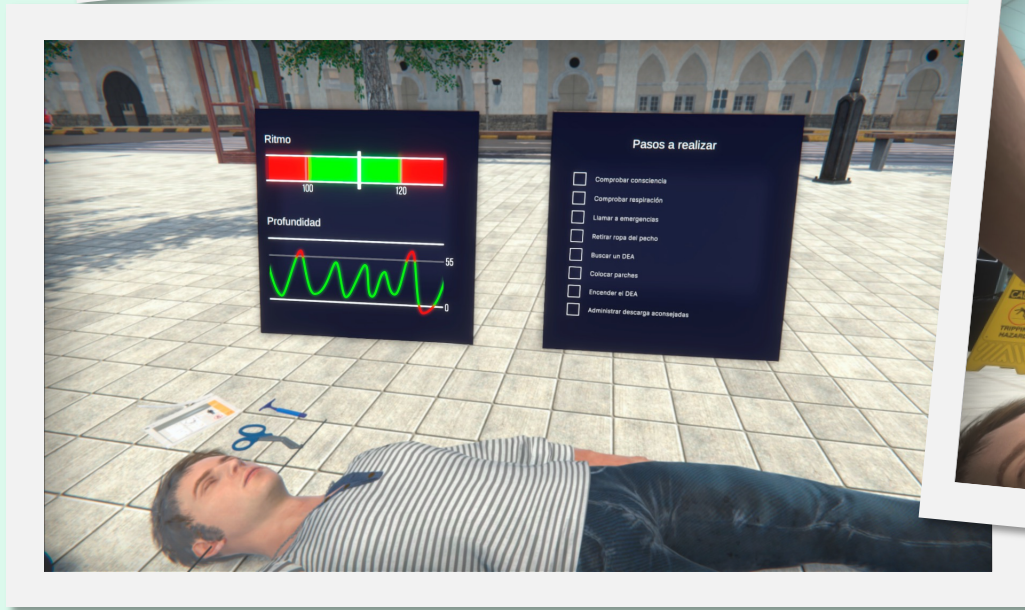
Basic statistics shown to the user at the end of the simulation

- > Exercise duration time
- > Total session time
- > Mistakes
- > Compression depth and rate values
- > Approved/Not Approved



ADVANTAGES BETWEEN BASIC CPR TRAINING IN VR AND TRADITIONAL TRAINING

| OPTIONS | Traditional training:basic bust | Traditional training:smart bust | VR Training | INFORMATION |
|------------------------------------------------------|---------------------------------|---------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hear (breath) | ✗ | ✗ | ✓ | With the CPR product, the student will be able to hear if the subject is breathing or not, or if he has agonal breathing. |
| Measure compression rate | ✗ | ✓ | ✓ | Unlike traditional training, with the CPR product you can measure the rate of compressions throughout the exercise. |
| Assess compression pressure | ✗ | ✓ | ✓ | The depth of each of the compressions will be measured in the CPR product |
| Evaluate elevation of compressions | ✗ | ✓ | ✓ | Not only can the depth be measured, but also assess whether the student raises their hands to the starting position to generate proper blood circulation. |
| stress | ✗ | ✗ | ✓ | Through sounds, screams and situations caused by third parties, the student will train the basic CPR process under stress, avoiding ideal situations that do not train in the same way compared to reality. |
| Third persons management | ✗ | ✗ | ✓ | The user will be able to interact with third parties so that they do not bother them, learning to better manage the situation and doing Role Playing. |
| Rain | ✗ | ✗ | ✓ | The rain will be a possible situation, not imaginary as in a traditional formation. |
| Expired electrodes | ✗ | ✗ | ✓ | The student will have to decide what to do if they come across expired electrodes. |
| Metallic necklaces, bracelets or watches | ✗ | ✗ | ✓ | The student will have to demonstrate that he has understood that they must be removed to avoid fatal errors. |
| Body hair | ✗ | ✗ | ✓ | The student will decide whether or not to put electrodes based on the body hair of the unconscious subject. |
| Suffer shock from touching the subject | ✗ | ✗ | ✓ | If you are touching the patient when the defibrillator discharges, you will suffer a consequence unthinkable in traditional training. |
| Third person suffers shock when touching the subject | ✗ | ✗ | ✓ | If you have not managed third parties well and one of them touches the subject when the download is made, the student will be able to see the consequences. |





02

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
immersive component to the
trainings



18 complete products with
more than 500 exercises.



- > 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 safetyC
- > Elevated 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

Subscription

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**



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-learning

 **4 times**

More concentrated and focused



Learn by Living

ludusglobal.com