PYLA

TRAINING
CENTER

by ALPhANOV

VIRTUAL REALITY EDUCATIONAL TOOLS

IMMERSIVE PHOTONICS LAB

Photonics training accessible to anyone, anywhere, anytime !

Immersive Photonics Lab

WHAT'S THE IMMERSIVE PHOTONICS LAB?

The **Immersive Photonics Lab** is an innovative training tool that places the learner in a **virtual reality photonics lab**. The immersive learning environment helps a participant master the **professional and technical handiwork**.

Immersive Photonics Lab headset
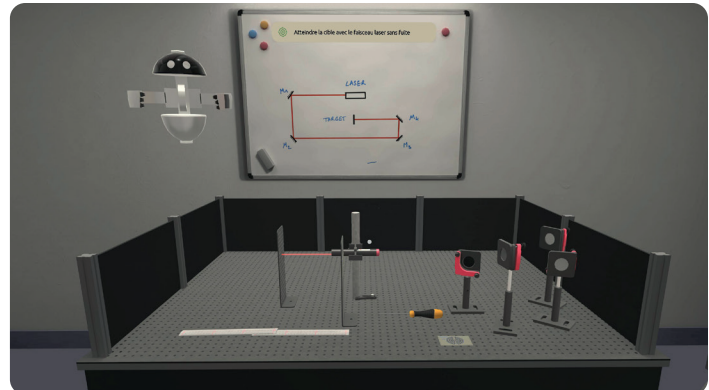
View of the virtual environment

WHAT'S INSIDE?

The **Immersive Photonics Lab** integrates numerous laser practical trainings at University levels. Each module is autonomous as a result of its different modes of use:

- A beginner's tutorial to introduce different optical elements
- A step-by-step guided practical activity with different levels to develop procedural skills
- A «sandbox» mode to work freely

KEY ADVANTAGES:

- Develop procedural skills
- Boost autonomous learning
- Guide learners with progressive levels
- Ready-to-use practical works
- Stimulate motivation and interest
- Avoid purchasing expensive equipment
- Limit the equipment downtime pr damage for training

TARGET AUDIENCE:

- PhD, Engineers, technicians and operators in companies (gesture and posture managment)
- Researchers and research laboratories staff
- High school and university students
- Lifelong learners in photonics
- General public to discover photonics and laser

READY-TO-USE PRACTICAL WORKS:

Lab task #1 - **LASER ALIGNMENT**

4 levels - At the end of this lab task, the learner will be able to align a laser beam on a predefined axis, using two mirrors and two diaphragms.
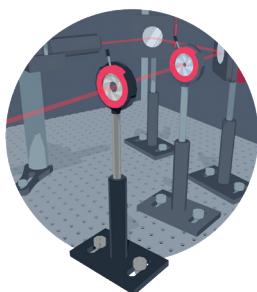
Lab task #2 - **LASER COLLIMATION**

3 levels - At the end of this lab task, the learner will be able to correctly place a lens in a laser beam and to align an optical system (enlarger/reducer of a beam) consisting of a diverging lens and a converging lens.
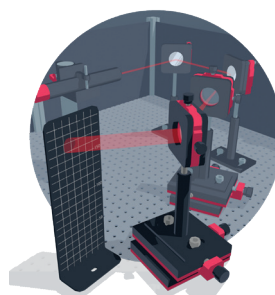
Lab task #3 - **MICHELSON INTERFEROMETER**

3 levels - At the end of this lab task, the learner will be able to tune a pre-mounted Michelson interferometer using a monochromatic source
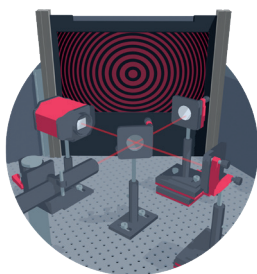
Lab task #4 - **LASER SAFETY- BEAM MANAGEMENT**

3 levels - At the end of this lab task, the learner will be able to manage an infrared laser beam safely and without laser leakage, using a beam blocker and an infrared card.
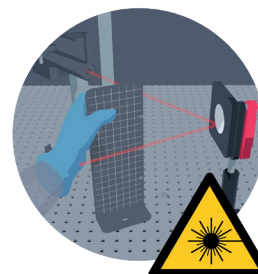
TECHNICAL SPECIFICATIONS:

Reproduced physical phenomena	• Gaussian beams propagation • Interference • Collimation and focusing • Polarization (work in progress)
Educational scenarios	• "Tutorial" mode to get used to virtual optical components • "Step-by-step" mode to improve procedural skills • "Sandbox" mode to work freely
Assistance - Supervision	• Observer mode on smartphone/tablet
3D Environment	• Representing a photonic lab environment
Equipment	• Virtual reality headset (Pico 4 Ultra/Oculus quest 3/HTC Vive) • Weight: 500 g • Wireless • No extra equipment • Permanent licences

PYLA
TRAINING CENTER
by ALPhANOV
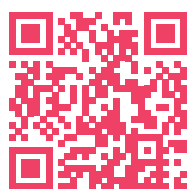
PYLA - TRAINING CENTER
Rue François Mitterrand
33400 TALENCE / France
Ph. +33 (0)5 64 31 08 92
contact@pyla-formation.com

ALPhANOV
Optics & Lasers Technology Center

CISTEME

ALPHA RLh
ROUTE DES LASERS &

cea
DE LA RECHERCHE À L'INDUSTRIE

RÉGION Nouvelle-Aquitaine