



**PhotonHub  
Europe®**

PHOTONICS INNOVATION HUB  
FOR EUROPE



PHOTONICS<sup>21</sup>

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

## DISCOVER HOW YOU CAN

- ✓ **Boost prevention**
- ✓ **Diagnose diseases**
- ✓ **Manage chronic conditions**
- ✓ **Advance therapy options**

Explore all possibilities  
on [photonhub.eu](http://photonhub.eu)

Avail of a  
**free initial  
assessment  
by top experts**

for European  
SMEs

Delve into how your  
business could minimise  
the risk and expense  
of deep technology  
innovation through  
"test-before-invest"  
support from PhotonHub.

**PHOTONICS IN  
HEALTHCARE**



# PHOTONICS IS EMPOWERING THE COMPLETE CARE SPECTRUM

## FROM PREVENTION

## TO DIAGNOSIS

## AND TREATMENT



Monitoring vital signs

Helping with informed choices about food intake

Assessing muscle strength, endurance and fatigue

Creating high-resolution images of internal organs and structures

Delivering precise and minimally invasive treatments

## EXAMPLES OF COMPANIES SUPPORTED WITH PHOTONICS INNOVATION PROJECTS

FIND MORE ON PHOTONHUB.EU

### REDUCING DIAGNOSTIC TIMES THROUGH OPTICAL SENSORS



In-vitro diagnostic (IVD) products, especially those for body fluids such as whole blood, serum, plasma or urine, require a high level of precision in temperature measurement. EXIAS Medical partnered with Joanneum Research on introducing photonics to their analysis systems, enabling them to achieve shorter measurement times and a higher standard of accuracy and precision, especially for blood gas and glucose readings. This novel solution is applicable to the analysis systems used in hospitals, laboratories or large medical practices.

*Scan the QR code overleaf to watch a short video on this project.*

### IMPROVING PROCEDURE ACCURACY THROUGH HIGH-QUALITY ILLUMINATION AND HIGH-RESOLUTION IMAGERY

Shorter and less invasive procedures improve patient outcomes and ensure faster recovery. Photonics has been a key enabling technology for Tympany Medical in the development of their next-generation endoscope for minimally invasive ear, nose and throat (ENT) procedures. Vrije Universiteit Brussel (VUB) worked with the company on developing a prototype, involving the Tyndall Institute for their packaging expertise. The resulting endoscope enhances the capabilities of the surgeon by providing panoramic vision and self-cleaning functionalities. *Scan the QR code overleaf to watch a short video on this project.*



### ASSESSING POST-OPERATIVE RECOVERY USING REMOTE OPTICAL MONITORING



Reducing the need for multiple hospital attendances following surgery can greatly improve patient outcomes. Real Implants Ltd. worked in collaboration with Optoelectronics Research Centre (ORC) on a feasibility study to explore the use of optical monitoring to assess the repair of fractures fitted with a 'smart' implant and enable real time, remote monitoring of healing. The aim of this solution would be to measure the healing response, without patient journeys to hospital and numerous x-rays, thereby reducing the cost of treatment while increasing convenience for the patient and improving their recovery and rehabilitation.

# HOW PHOTONICS CAN **SUPPORT YOU**

Photonics empowers the healthcare industry in countless ways. From faster, more accurate disease diagnosis and better medical treatment to improved medicine effectiveness and precise cancer detection through optical methods of medical imaging and in-vitro diagnostics.

Innovation with the advantages of light reduces the burden on healthcare and ensures a healthier, happier life.

**Start your photonics innovation journey with our support.**



## **DEMO & EXPERIENCE CENTRES**



In addition to providing innovation support, PhotonHub Europe acts as a one-stop-shop matchmaker between European SMEs and the existing European ecosystem of photonics training providers. This extensive training offering is presented as a single online catalogue of the European Photonics Innovation Academy.

## **ONSITE TRAINING OPPORTUNITIES**

Discover photonics at the one-day Demo Centres and become fully immersed at the three-day hands-on Experience Centres situated across Europe.

### **Advanced Imaging**

Demo Centre by CD6 – Universitat Politècnica de Catalunya



### **Optics and Freeform Optics**

Experience Centre by Vrije Universiteit Brussel B-PHOT



### **Terahertz Spectroscopy Application to Solid, Liquid and Gaseous Samples** — Demo Centre by CNRS IEMN



## **FREE ONLINE INTRODUCTORY TRAINING OPPORTUNITIES**

Half-day online sessions are delivered throughout the year.

View our complete training schedule and register your interest at [ecosystem.photonhub.eu](https://ecosystem.photonhub.eu) or by scanning the QR code.

### **DISCOVER**

how PhotonHub can support your business with photonics

