

# 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





# 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](https://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



Monitoring vital signs

Helping with informed choices about food intake

## EXAMPLES OF COMPANIES SUPPORTED WITH PHOTONICS

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 PROCEDURES THROUGH HIGH-QUALITY AND HIGH-RESOLUTION

Shorter and less invasive procedures, better outcomes and ensure faster recovery are a key enabling technology for Tyndall's development of their next-generation minimally invasive ear, nose and throat surgery. Vrije Universiteit Brussel (VUB) worked with Tyndall on developing a prototype, involving Tyndall's packaging expertise. The result is a device with the capabilities of the surgeon by design, including self-cleaning functionalities.

*to watch a short video on this project.*



## ATION

## TO DIAGNOSIS

## AND TREATMENT



Assessing muscle strength, endurance and fatigue

Creating high-resolution images of internal organs and structures

Delivering precise and minimally invasive treatments

## PHOTONICS INNOVATION PROJECTS

### PRECISE ACCURACY QUALITY ILLUMINATION OPTICALLY TRANSPARENT IMAGERY

These procedures improve patient recovery. Photonics has been used for Tympany Medical in the development of an endoscope for ear, nose and throat (ENT) procedures. Photonics (UK) worked with the company on a project involving the Tyndall Institute for the development of the resulting endoscope enhances patient recovery by providing panoramic vision and clear images. *Scan the QR code overleaf to learn more about 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.

