

HOW PHOTONICS CAN SUPPORT YOU

Photonics helps to supply safe, nutritious and affordable food for all and establish a sustainable value chain from farm to fork. By using ever more precise sensors and measuring devices, farmers, technology providers, food processors and consumers will be able to monitor and certify the safety, quality, content and even the origin of food – anytime and anywhere.

Photonics technologies can monitor soil health and hydrology, predict protein levels in grain harvests, determine when to pick fruit, map water quality to check the health of fish stocks, and more.

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.

Photonics Packaging and Integration Technologies

Experience Centre by Tyndall National Institute, UCC



Photonics and Food

Demo Centre by Vrije Universiteit Brussel B-PHOT



Thick-SOI Photonics for Sensing and Imaging

Demo Centre by VTT Technical Research Centre of Finland



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 or by scanning the QR code.

DISCOVER

how PhotonHub can support your business with photonics





**PhotonHub
Europe®**

PHOTONICS INNOVATION HUB
FOR EUROPE



PHOTONICS²¹

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

DISCOVER HOW YOU CAN

- ✓ **Reduce energy costs**
through smart
lighting systems
- ✓ **Optimise harvest yields**
through monitoring soil
and plant health
- ✓ **Assure food safety**
through smart imaging
and storage monitoring

Explore all possibilities
on photonhub.eu

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

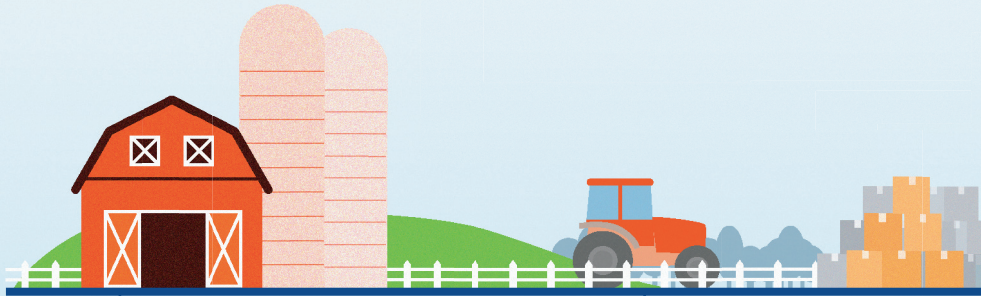
for European
SMEs

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



**PHOTONICS IN
AGRICULTURE & FOOD**

FROM FARM



Soil and crop monitoring
on field or vertical farm

Harvest inspection

EXAMPLES OF COMPANIES SUPPORTED WITH PHOTONICS

FIND MORE ON [PHOTONHUB.EU](https://photonhub.eu)

FOOD QUALITY AND SAFETY ASSURANCE WITH LIGHT TECHNOLOGY MONITORING



Optical food sorting machines target the removal of unwanted products from a product flow, benefitting food safety and quality by detecting foreign objects, bruised products and harmful elements. Vrije Universiteit Brussel (VUB) and Warsaw University of Technology (WUT) performed a spectroscopic study optimizing the illumination and detection parameters for nut sorting. VUB subsequently worked on an improved illumination lens design.

SOIL MONITORING BEYOND PHOTONICS TECHNOLOGY

Fertilizer is essential for an abundant crop. The importance of a simple and innovative solution for soil monitoring was investigated by Joanneum Research. They developed a lab-on-a-foil system for soil



TO FORK



TONICS INNOVATION PROJECTS

BENEFITTING FROM INNOVATIVE TECHNOLOGIES

abundant harvest, indicating the use of an innovative soil nutrients analyser. The project focused on mastering and upscaling the use of soil fertility monitoring.



SAFEGUARDING WINE QUALITY THANKS TO OPTICAL SENSORS



Wine ageing enhances the flavour of the wine, as the oakwood barrel continuously releases aromatic compounds such as lignin, tannins and cellulose. Due to the release process, the barrel quality decreases over time, impacting the wine flavour. To safeguard the presence of the aromatic compounds in an oak barrel, Vrije Universiteit Brussel (VUB) and The Foundation for Research and Technology - Hellas (FORTH) combined optical spectroscopy and fibre sensors for the monitoring of oak barrels used in wine ageing.

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