



**PhotonHub
Europe®**

PHOTONICS INNOVATION HUB
FOR EUROPE



PHOTONICS²¹

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

DISCOVER HOW YOU CAN

- ✓ **Decrease data carbon footprint** through photonic integrated circuits (PICs)
- ✓ **Monitor enviromental & climate change** through optical sensing
- ✓ **Boost wind & solar energy** productivity through LiDAR mapping & optical concentrators

Explore all possibilities
on photonhub.eu

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

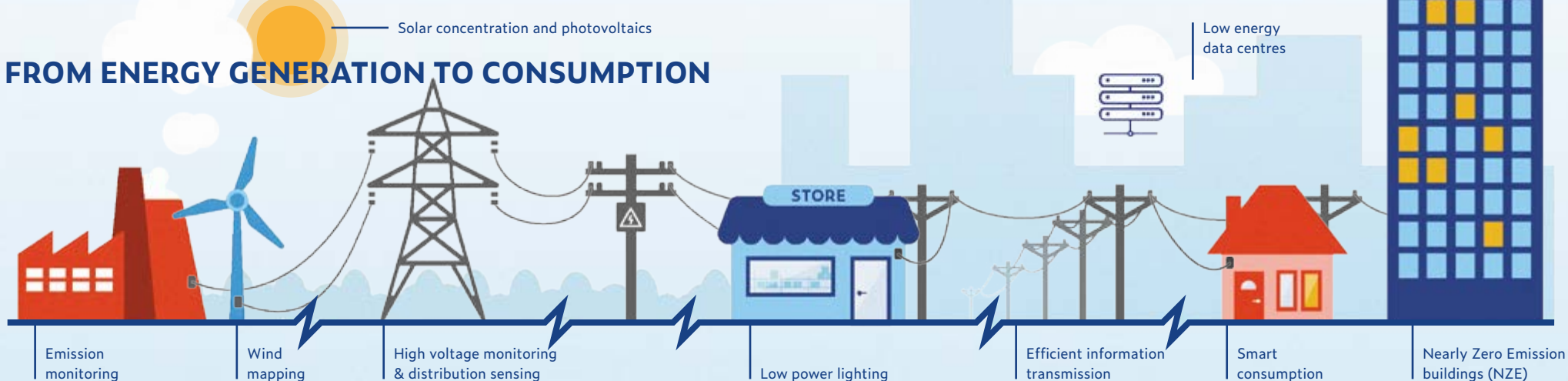
for European
SMEs

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



**PHOTONICS IN
CLIMATE & ENERGY**

FROM ENERGY GENERATION TO CONSUMPTION



EXAMPLES OF COMPANIES SUPPORTED WITH PHOTONICS INNOVATION PROJECTS

FIND MORE ON PHOTONHUB.EU

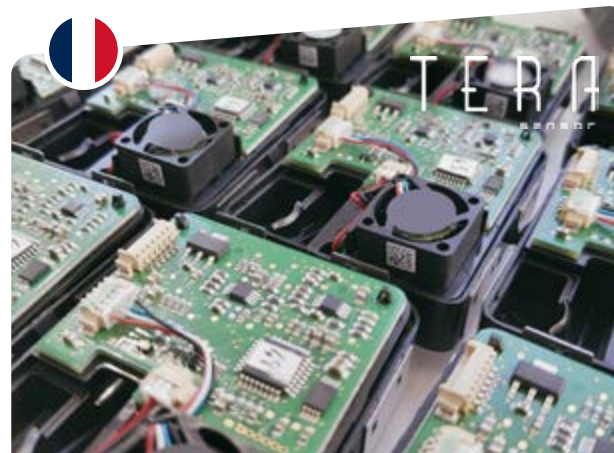
WIDE-AREA MONITORING OF POWER GRIDS THROUGH PHOTONIC INTEGRATED CIRCUIT (PIC)-BASED SYSTEMS



The move towards distributed renewable energy sources presents challenges to the existing power network monitoring, protection and control functions. Synaptec develops sensors which enable wide-area power grid monitoring with unmatched reaction times and multiplexing capabilities. The company was in need of external expertise to prototype and package a miniaturised interrogation and multiplexing system for its voltage and current sensors. A collaboration with Tyndall-UCC and TNO was instrumental in developing a solution to minimise operation time and improve discrimination of power system protection schemes.

DEVELOPING PROOF-OF-CONCEPT COMPONENTS USING ELECTRON BEAM LITHOGRAPHY (EBL) TECHNOLOGY

Real-time measurement of air quality is a growing market. TERA Sensor designs, develops and markets its own patented sensors. In order to classify particulate matter, the company needed to develop a new compact and high efficiency multi-spectral sensor with a polarizing filter. CNRS and UEF collaborated with the company on an innovation project aimed at developing a new planar diffractive optical element to improve both the compactness of their sensing device and the selectivity in particle detection.



IMPROVING THE ACCURACY OF SENSING SYSTEMS THROUGH OPTICAL SPECTROSCOPY



Water utilities, agencies and regulators need to be able to monitor water quality and control pollution levels. AQUACORP has developed a smart-water AI platform targeting fresh water and waste-water monitoring which is completely automated and non-contact, allowing for remote, continuous and real-time monitoring of water using multi-spectral and RGB cameras. VUB worked with the company on a feasibility study involving a spectroscopic study of the water parameters, enabling the improvement of the AI platform, the extension of the sensing capabilities, and the optimisation of the camera outlook by selecting the optimal camera filters and lenses.

HOW PHOTONICS CAN **SUPPORT YOU**

Photonics helps to reduce resources and energy at every stage of their value chain, from generation to consumption. By using optical concentrators, LEDs/OLEDs, PICs, distributed fibre optical sensing and laser-enabled manufacturing, producers and consumers can decrease conversion losses and operating costs. Photonic technologies can also be used

for performance monitoring (both in residential and industrial scenarios) as well as for environmental protection and circular processing, helping to better understand and act upon climate change.

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.

Spectral Imaging and Its Applications

Demo Centre by Photonics Finland



Photovoltaics: Discovering the Solar Cell

Demo Centre by CNRS IEMN



Photonic Materials & Speciality Fibres

Experience Centre by Łukasiewicz – Institute of Microelectronics and Photonics



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

