HOW PHOTONICS CAN **SUPPORT YOU**

Photonics is increasingly used in the manufacturing and operation of mobility systems and infrastructure, making roads, railways and airspace safer, more efficient and more sustainable. Applications include structural health monitoring with fibre optical sensors, intelligent lighting with LED and laser systems, and 3D laser scanning for autonomous unmanned aerial vehicles UAVs). Photonics is improving energy efficiency, supporting safer rail networks and replacing large aircraft with small UAVs equipped with lightweight sensors and imaging systems.

Start your photonics innovation journey with our support.

DEMO & EXPERIENCE CENTRES

In addition to providing innovation support, PhotonHub partners accross Europe provide both onsite and online training for industry. This extensive training offering is presented as a single online catalogue of the European Photonics Innovation Academy.

ONSITE TRAINING OPPORTUNITIES AT DEMO AND EXPERIENCE CENTERS

Discover and become fully immersed in photonics through in-person training delivered at the Demo & Experience centers listed below. The schedule of upcoming training can be found at photonhub.eu or by scanning the QR code.

- Joanneum Research
- HiLASE
- Fraunhofer
- Leibniz IPHT
- Politecnico di Milano

FREE **ONLINE** INTRODUCTORY TRAINING OPPORTUNITIES

Half-day online sessions are delivered throughout the year.

View our complete training schedule and register your interest at photonhub.eu or by scanning the QR code.

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PhotonHub™

PHOTONICS21

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

DISCOVER HOW YOU CAN

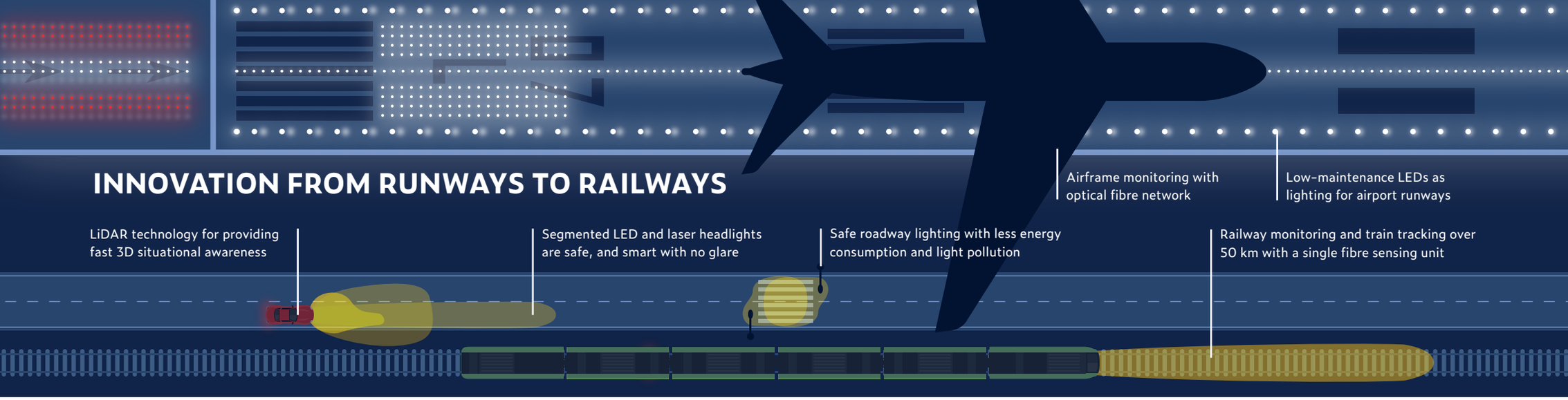
- ✓ **Achieve smart, durable lighting** by using LED and laser systems for vehicles, roads, and runways
- ✓ **Improve safety with sensors** by monitoring vehicles, planes, railways, and drivers' attention
- ✓ **Enhance autonomous mobility** through 3D awareness with photonics sensors and LiDAR

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 **MOBILITY**



EXAMPLES OF COMPANIES SUPPORTED WITH PHOTONICS INNOVATION PROJECTS

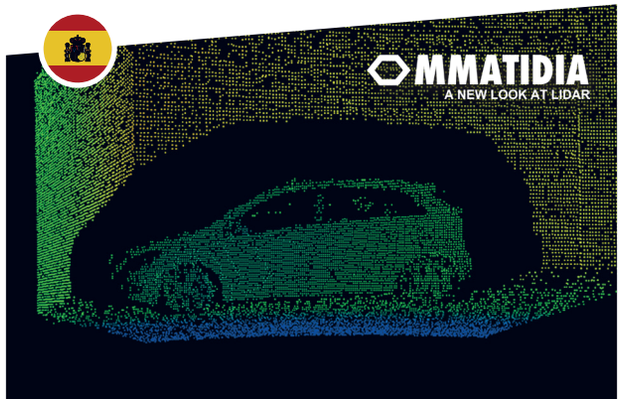
FIND MORE ON PHOTONHUB.EU

DEVELOPING ADVANCED LENS SYSTEMS FOR AUTONOMOUS VEHICLES

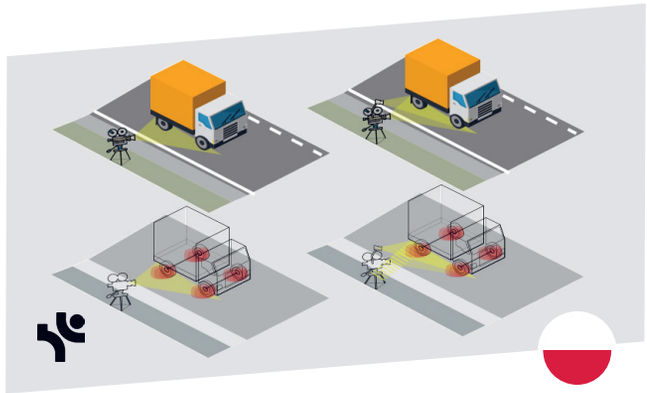
The Imaging Source specialises in the design and manufacture of lens arrays using free-form optics for various applications in the field of autonomous vehicles. Their goal is to develop a passive lens system that can be mounted on high-resolution sensors and cameras, with a 6-lens multifocal optical component with different image planes. To achieve this, they have partnered with the Vrije Universiteit Brussel (VUB) in Belgium to help design and manufacture this innovative optical system.

INNOVATIVE LOW-COST LIDAR SYSTEMS FOR AUTONOMOUS VEHICLES

Ommatidia LiDAR aims to demonstrate the feasibility of low-cost, high-volume production of PIC-based photonic LiDAR systems for fully autonomous vehicles. Their bio-inspired sensor, similar to the compound eye of insects, images the environment in 3D with high resolution and range. Using continuous broad-beamed illumination, it achieves megapixel resolution and long-range capabilities (>300m). Partnering with Technical Research Centre of Finland (VTT) and Tyndall - UCC in Ireland, Ommatidia aims to bring this scalable, reliable, and low-cost technology to the automotive industry.



REVOLUTIONISING ROAD SAFETY AND MAINTENANCE WITH INNOVATIVE SENSOR TECHNOLOGY



Heller Consult sp. z.o.o. enhances road safety and infrastructure maintenance through dynamic vehicle weighing (Weigh-In-Motion). In collaboration with Warsaw University of Technology (WUT) in Poland, they have developed a unique sensor system. This technology measures pavement deflection under vehicle load and recalculates axle and gross vehicle weights.
The system promises more accurate and efficient road maintenance and safety management.