Advanced imaging and sensing technologies (IA)(Photonics Partnership)

Innovative hardware and software approaches, or to explore novel techniques with potential to outperform the current standards.

The projects should demonstrate the technology in the form of complete function (or building blocks) showing feasibility for future industrialisation.

It should address the following sectors:

- Automotive, where detection of pedestrians, obstacles and other vehicles at long distance is required in order to safely prepare the reaction of the vehicle in all weather conditions;
- Safety and security, where fast reconnaissance and identification of collaborative or non-collaborative targets and surveillance of infrastructures are required;
- Industry, where imaging can be used for logistics and inspection and analysis of safety and quality control of processes or produced goods;
- Health, where minimally and non-invasive spectroscopic and biophotonic imaging and sensing techniques enable diagnosis, screening, monitoring and treatment of a patient, possibly including augmented reality (AR) visualization;
- Agriculture and food, where spectroscopic imaging and sensing enables non-destructive measurement/monitoring of plants and crops and plant nutrients during production and post-harvest (e.g. phenotyping); this allows fast interactions/adjustments and enables monitoring of plant materials and food products along the entire production chain for quality and safety aspects.

Technologies covering more than one application sectors above are encouraged, such as:

- Long range, high speed, eye-safe imaging for automotive, security, and industrial systems
- Imaging in presence of obscurants for medical, automotive, manufacturing, agriculture, food and security, spectroscopic imaging and sensing for medical, environmental, agriculture, food monitoring and security.

This topic implements the co-programmed European Partnership Photonics.

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