Partner Search Form
Horizon Europe
Health

Date 30 07 2025 Deadline … …

CONTACT

Organisation	Pazmany Peter Catholic University	**Department**	Faculty of Information Technology and Bionics
Contact person	Anna Gelencsér-Horváth PhD	**Email**	gha@itk.ppke.hu
City	Budapest	**Website**	https://itk.ppke.hu/en/hungarian-bionic-vision-center
Country	Hungary		

Organisation type

Research organisation type	☐ Research Organisation x **University** ☐ Company ☐ Other	**Is your company a Small and Medium Sized Enterprise (SME*)?** **Number of employees:**	☐ YES x **NO** 250+

Your enterprise is an SME if:
- it is engaged in **economic activity**
- it has **less than 250 employees**
- it has either an **annual turnover not exceeding €50M**, **or a balance sheet total not exceeding €43M**
- it is **autonomous**

For the definition of SMEs, look at:
http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Short introduction of key areas of institute's research:
Our institution conducts research at the intersection of computer vision, machine learning, and human-centred AI, with strong applications in robotics and real-world systems. In computer vision, we focus on object segmentation, multi-object tracking, semi-calibrated camera systems, 3D digital twin, interpretation and representation of spatiotemporal events, advanced sensor fusion techniques and personal navigation. Our machine learning research supports intelligent perception and decision-making in dynamic environments. We are also committed to inclusive design through the development of assistive technologies and accessible mobile applications for blind and visually impaired users, ensuring that technological advancements benefit diverse populations.

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Former participation in an FP European project?	x **YES** ☐ NO
Project title / Acronym:	**FP7 / 3x3DImaging**, *Fast two-photon in vivo imaging and stimulation with simultaneous three-dimensional random access scanning in multiple brain regions*
Activities performed:	**H-2020 FETOPEN-01 / k-NET**, *k-NET Neural computation with magnEtic exciTations* **ERA-NET Chist ERA III. / SONATA**, *Sustainable Computing and Communication at the Edge* **Horizon-CL4-2022-RESILIENCE-01 / PHASTRAC**, *Phase Transition Materials for Energy Efficient Edge Computing* **H-2020 Erasmus Mundus Joint Master / IPCV.ai**, *Image Processing and Computer Vision* **Swiss Contribution Grant**, *Development of bionic and genetic tools to help the visually impaired,* consortium lead

Expertise / Commitment offered

Description of your expertise:

With established expertise in human-computer interaction, communication protocol design, and inclusive development processes, we bring hands-on experience to the co-design, implementation, and evaluation of systems involving both blind and sighted users. Our research integrates advanced computer vision techniques with mobile application development, enabling robust, real-world solutions.

We propose to contribute in the following key areas:

• Design and evaluation of human-centered interaction protocols

• Development of mobile computer vision and novel composite AI methods

• Participatory development involving blind users throughout the design, development and testing process

• Application of computer vision methods for assistive and spatial computing tasks

• Cross-platform mobile application development with a focus on accessibility

Our team participated in the Vision Assistance Race at Cybathlon 2024 in Zurich. By completing the most tasks and winning this global competition, we demonstrated the potential of our approach and technology.

Through our strong, versatile background — spanning human-computer interaction, computer vision, sensor integration, and inclusive technology design — we can contribute effectively to initiatives aiming for accessible, adaptive, and user-driven innovation.

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Keywords specifying your expertise:	Computer vision, machine learning, AI applications, visual perception, scene understanding, 3D scene representation, sensor fusion, spatial-temporal processing, mobile application development, image/video annotation techniques, rapid prototype development pipeline (techniques)
Commitment offered:	x **Research** x **Demonstration** ☐ Training x **Technology** x **Dissemination** ☐ Other:

Interested in participation in project types:	x Research & Innovation Action	x Innovation Action	x EIC Pathfinder

Work Programme research areas: indicate your interest

Our research interest lies in AI and computer vision to meaningfully support persons with visual impairment in different areas of life (e.g., independent living, public transport, education, return-to-work processes, use of healthcare services, etc.). We focus on researching and developing methods that enable inclusive and accessible interactions, tailored specifically to the needs of blind and visually impaired individuals. Our aim is to design approaches that are primarily on-device, building on accessible, everyday-use devices equipped with all available sensors relevant to the task, to ensure practicality, privacy, and real-world applicability.

Call topic(s):
HORIZON-HLTH-2025-01-CARE-01

Do you have other partners for this topic (which partners/country)?	

Profile of partner sought

Role	x **technology development**	x **research**	☐ training
	x **dissemination**	x **demonstration**	☐ other _____
Country /region	☐		

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Expertise required	We are interested in joining a consortium targeting any of the above-mentioned calls, where our expertise in AI, computer vision, accessibility, and human-centered design can contribute meaningfully. We're looking for partners with any of the following: ● having expertise in 3D computer vision and scene understanding ● experience in mobile application development, and preferably in creating accessible UIs ● having experience in running EU Horizon grants. ● having already developed or worked with technologies for visually impaired people

I agree with the publication of my contact data: x **YES** ☐ NO