Partner Search Form
Horizon Europe
Health

HNN 3.0
HEALTH-NCP-NET

Date | 16 | 08 | 2025   Deadline | 08 | 09 | 2025

CONTACT

Organisation	Luxembourg Institute of Health	**Department**	BraINE group (Brain Imaging & NeuroEpidemiology); Departement of Cancer Research
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Country	Luxembourg		

Organisation type

Research organisation type	☒ Research Organisation ☐ University ☐ Company ☐ Other	**Is your company a Small and Medium Sized Enterprise (SME*)?** **Number of employees:**	☐ YES ☒ NO 500

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: The Luxembourg Institute of Health (LIH) is a leading public biomedical research organization in Luxembourg, dedicated to patient-centric translational research with a special focus on cancer, immune-related disorders, and the broader fields of personalized medicine, preventive medicine, and digital health. Founded in 2015 from the merger of CRP-Santé and the Integrated BioBank of Luxembourg (IBBL), LIH operates at the intersection of clinical practices and advanced biomedical research capabilities.

Former participation in an FP European project?	☐ YES ☒ NO
Project title / Acronym:	N/A
Activities performed:	N/A

Expertise / Commitment offered

Description of your	The BraINE group (Brain Imaging & NeuroEpidemiology) at the

expertise:	Luxembourg Institute of Health (LIH) focuses on advancing research in brain health and disease by combining cutting-edge clinical and experimental neuroimaging with advanced analytical methodologies. Main Research Areas & Methods
	Brain Health and Disease: BraINE explores factors that increase or decrease the risk of brain diseases, examining genetic, metabolic, environmental, and lifestyle influences on neurological disorders.
	Imaging Technology: The group uses state-of-the-art technologies like fMRI, MRI, and PET scans to study brain structure and function in healthy individuals, patients, and animal models.
	Neuroepidemiology: They research population-level patterns and risk factors for disorders such as Alzheimer's, Parkinson's, and other neurodegenerative diseases, integrating epidemiological data with neuroimaging results.
	Early Detection: BraINE is developing new methods for the early detection of brain diseases through biomarkers and advanced analytics, thus helping to identify at-risk populations and monitor disease progression.
	Interdisciplinary Collaboration: The group works across LIH's Department of Cancer Research and Department of Precision Health, and collaborates with hospitals, international research partners, and funding agencies like the Luxembourg National Research Fund and F.R.S.-FNRS.

Keywords specifying your expertise:	MRI, PET, Brain, Cancer, Alzheimer, Parkinson, Generative AI, Epidemiology

Commitment offered:	☒ Research ☐ Demonstration ☐ Training ☐ Technology ☐ Dissemination ☐ Other:
	Our center develops trustworthy generative-AI solutions for oncology. In the 2025 Pathfinder call "Generative-AI based Agents to Revolutionize Medical Diagnosis and Treatment of Cancer," we will deliver a prototype that combines state-of-the-art multimodal data fusion, retrieval-augmented generation and agentic reasoning to tackle brain-cancer diagnostics.

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

Work Programme research areas: indicate your interest

GenAI for multimodal multidimensional data integration, autonomous agents for predictive diagnosis & personalized treatment, medical knowledge representation, clinical workflow tools, brain cancer arch, EU AI Act compliance, ecosystem integration.

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Call topic(s):

EIC 2025 Pathfinder Challenge 'Generative-AI based Agents to Revolutionize Medical Diagnosis and Treatment of Cancer' (cf. EIC 2025 Work Programme, pp. 37-41 and call text on the Funding and Tenders Portal: HORIZON-EIC-2025-PATHFINDERCHALLENGES-01-02).

Scientific & Technical Objectives:

- Create a unified knowledge graph linking MRI/CT, pathology slides, molecular data and clinical notes for brain tumours.
- Implement a RAG pipeline that grounds large-language-model outputs in patient-specific evidence drawn from the knowledge graph.
- Design agentic workflows for risk stratification and personalised treatment selection, with human-in-the-loop oversight.

Alignment with Pathfinder Challenge:

The project addresses Category 1 (brain cancer), Category 2 (predictive diagnosis & personalised treatment), and Category 3.i (GenAI-based tools for multidimensional multimodal health-data integration). Ethical-by-design principles and EU AI Act compliance will be embedded throughout.

Do you have other partners for this topic (which partners/country)?	Ongoing negotiations with academic partners in Germany, Luxembourg, Norway and Spain. Seeking additional collaborators across EU and associated countries.

Profile of partner sought

Role	☒ technology development	☐ research	☐ training
	☐ dissemination	☒ demonstration	☐ other

Country /region	☐
Expertise required	Specifically, we are looking for one or more organizations – SMEs/start-ups – with the following capabilities: 1. Brain-cancer visualisation & annotation platform – preferably CE-marked, supporting DICOM and NIFTII medical imaging formats with collaborative tooling. 2. Expertise in integrating RAG pipelines with hospital EHRs using FHIR/HL7 interfaces. 3. Modular Control Plane (MCP) framework to orchestrate agentic models, enforce safety constraints, and log reasoning traces.

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