



PUREMIND - Integrated Mental Healthcare Ecosystem (IMHE) for children, adolescents and young adults.

PUREMIND is developing an Integrated Mental Healthcare Ecosystem to predict or early-identify mental health disorders (MHD) and create personalised interventions to improve wellbeing in children, adolescents and young adults aged up to 25 years. This ecosystem will mitigate five key challenges associated with MHDs.



1. Describe your project through key words/key phrases that identify it.

Integrated Mental Healthcare Ecosystem; Personal Natural Environment - Genome-Gut-Brain interactions; MyMind, Future-Self and POIEM; life-course prevention of mental illness from 0 to 25 years.

2. In terms of impact, what will be the most tangible your project will achieve?

PUREMIND will deliver a set of scientific, clinical and digital results with direct relevance for families, services and health systems. The project is developing biomarkers to predict future ASD and/or ADHD within 18 months of age; a rich open-access dataset from longitudinal observational research; the MyMind mobile app with Future-Self functionality; the AI-powered POIEM engine for personalised preventive intervention packages; and an Integrated Mental Healthcare Ecosystem to be assessed through observational studies, interventional studies and pilots.

The most tangible result will be the connection of prediction, prevention and intervention in a single pathway. Instead of leaving children, adolescents, young adults and families to navigate fragmented services, PUREMIND aims to provide earlier risk identification, understandable feedback, personalised lifestyle and care recommendations, and practical bridges to community and clinical support. The project targets high practical performance, including marker accuracy with area under ROC curve of at least 0.85, improved engagement in healthier lifestyles and health literacy in at least 80% of study participants,

reduction of escalation into mental health disorders in at least 75% of cases, and better quality of life in at least 70% of cases. These targets give the project a strong social ambition: to reduce preventable suffering, support carers, and make prevention visible and actionable.

3. Please describe your project's overall impact, if applicable, at the European level.

PUREMIND has a clear European relevance because mental-health disorders in young people are a growing health, social and economic burden, while prevention and early intervention remain unevenly available across countries and communities. Its life-course approach, covering the 0-25 age range, responds to a critical gap: risks often emerge long before formal diagnosis, but families and services may lack tools to interpret signals early enough and to act in a coordinated way.

The project's European impact is centred on social value and system transformation. PUREMIND can help move mental healthcare from late, episodic and specialist-centred responses towards earlier, personalised and community-connected prevention. By combining environment-biology-mental health knowledge with privacy-by-design digital tools, it can support more equitable access to guidance, improve health literacy, strengthen trust in evidence-based prevention, and reduce pressure on overstretched services. The expected benefits extend beyond clinical outcomes: improved participation in school, family and community life; better support for parents and carers; more efficient use of health and social-care resources; and a stronger European health-tech



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sector able to develop AI-enabled solutions that are ethical, explainable and adaptable across different health-system contexts.

4. As an applicant, what advice would you have wanted in the Horizon project design process? What support did you receive from National Contact point (NCP) and your organisation, and what improvement of support would you benefit from?

As applicant, the main advice would be to treat Horizon project design as an integration exercise: clinical protocols, technology, ethics, data protection, communication, exploitation and implementation science must be aligned before submission. For a project like ours, involving vulnerable populations, minors, multi-country studies and sensitive health data, the consortium should invest very early in ethics, consent/assent, data management, benefit-sharing and accessibility.

The NCP support was crucial for understanding the work programme, structuring work packages, refining measurable impacts, preparing the budget, and navigating grant-agreement feedback. Additional support would be beneficial through more hands-on clinics on clinical-study design, AI and data-regulation readiness, international ethics requirements, and examples of how successful Horizon health projects move from pilot evidence to adoption by health systems.



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