AI-Mind

Intelligent digital tools for screening of brain connectivity and dementia risk estimation in people affected by mild cognitive impairment

Why is the AI-Mind project needed?

According to the World Health Organisation (WHO), dementia affects around 50 million people worldwide and this number is expected to double over the next 20 years.

Mild Cognitive Impairment (MCI), a condition intermediate between normal brain ageing and dementia, affects up to 18% of people age 60 or older.

Up to 50% of people with MCI are at risk of progressing to dementia within 5 years[1]. With an ageing society, there is an urgent need for early risk assessment and intervention. The lack of screening tools prevents health professionals to identify the risk of developing dementia at an early stage of cognitive decline. We wish to introduce a new diagnostic opportunity of automatised, EEG-based, functional brain network analysis into the clinical world.

[1] Rossini, P.M et al. "The Italian INCERCEPTOR Project", Journal of Alzheimer's Disease, vol. 72, no. 2, pp. 373-388, 2019, DOI: 10.3233/JAD-190670

What are the objectives?

The AI-Mind project will develop two AI-based tools, one for brain screening and another for dementia risk estimation. Both integrated into a cloud-based platform easily accessible to health professionals.

With this the AI-Mind project aims to:

- Improve healthcare systems through the use of AI.
- Deliver timely and reliable dementia risk estimation.
- Provide treatment effect evaluations before the onset of dementia.
- Increase the screening rate of MCI.
- Strengthen research & innovation capacity across Europe.

Key facts

Coordinator
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Oslo University
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Duration
01.03.2021 - 28.02.2026

Budget
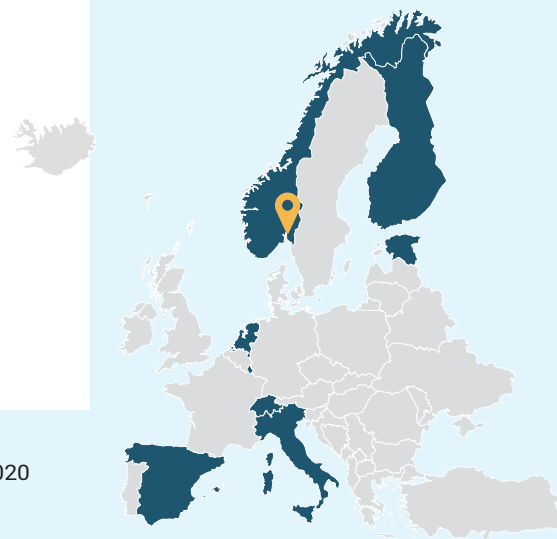14 million euro

Programme
EU Horizon 2020 / Health
Research & Innovation Action

Website
www.ai-mind.eu
@AIMind_eu

Consortium
15 partners, 8 countries

What is the concept?

In the heart of AI-Mind are two AI-based tools for brain area communication and dementia risk estimation, that analyse data in an innovative manner:

The AI-Mind Connector, which is fed with brain images from electroencephalographic (EEG) data, will evaluate and visualise interactions between different brain areas, identifying early disturbances in the functional brain network.

The AI-Mind Predictor which makes use of AI to combine data from AI-Mind Connector, blood analysis and cognitive tests, will provide an accurate (>95%) prediction of dementia risk for clinical decision making.
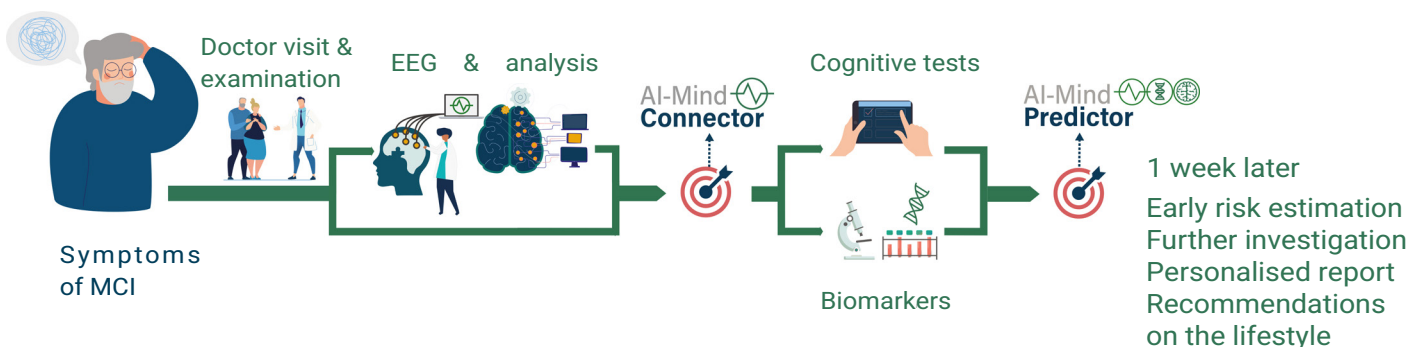
Both tools will be integrated into a coud-based diagnostic platform providing an easy-to-implement service for health professionals.

What will be the impact of the project?

The AI-Mind tools will significantly impact patients' and doctors' diagnostic journeys, reducing the currently lengthy process from several years to only one week of investigation.

AI-Mind partners

- Coordinator, Oslo University Hospital, NO
- Aalto University, FI
- accelopmentCH, CH
- Alzheimer Europe, LU
- BrainSymph AS, NO
- Det Norske Veritas Group, NO
- Helsinki University Hospital, FI

- Scientific Institute for Research, Hospitalisation and Healthcare, San Raffaele Pisana, IT
- Lurtis Rules S.L, ES
- Neuroconnect, IT
- Oslo Metropolitan University, NO
- Radboud University Medical Center, NL
- Tallinn University, EE
- Universidad Complutense Madrit, ES
- Università Cattolica del Sacro Cuore, IT