



# A dedicated TRImodality (PET/MR/EEG) imaging tool for schizophrenia

## The problem

Schizophrenia affects about 7 per 1000 of the adult population but because the disorder is chronic the overall incidence is higher, at around 1% of the population. The cost per person with psychotic disorders is close to 20.000€ per year on average. The earlier the treatment is initiated, the more effective it is, however the majority of people with schizophrenia do not receive treatment, which has the effect of prolonging their illness.

TRIMAGE aims to create a trimodal, cost-effective imaging tool consisting of PET/MR/EEG using cutting edge technology with performance beyond the state of the art. The tool is intended for broad distribution and will enable effective early diagnosis of schizophrenia and possibly other mental health disorders.



## TRIMAGE Objectives

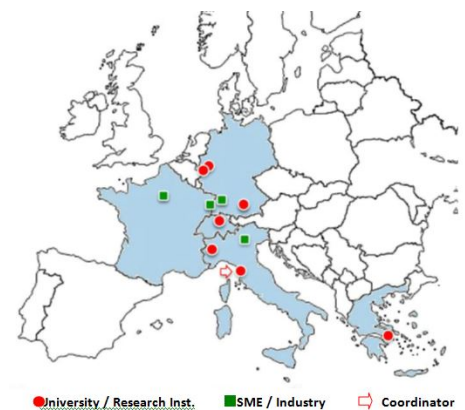
The main TRIMAGE S&T objectives are:

- Find new biomarkers and define a suitable multimodal paradigm with already available PET, MR, EEG and PET/MR systems that provides clinical evidence on the feasibility of advanced schizophrenia diagnosis.
- Construct and test an optimized cost-effective trimodality imaging instrument (brain PET/MR/EEG) for diagnosis, monitoring and follow-up of schizophrenia disorders.
- Validate the trimodal imaging device built by this Consortium with regard to the results and the clinical data obtained from objective 1.



## The Consortium

The TRIMAGE consortium brings together 11 multi-disciplinary partners from 5 European countries, and is based on high-level scientific expertise from Universities, Research Centres and SMEs.



Project Partners	Role in the project
University of Pisa (UNIPi)	Coordinator & PET system development
Technological Educational Institute of Athens (TEIA)	Dissemination & Monte Carlo simulations
Forschungszentrum Juelich GmbH (FZJ)	Coil design & PET/MR/EEG integration
JARA BRAIN, RWTH (JRB)	Clinical application
Technische Universität München (TUM)	Image quantification & clinical application
University of Zurich (PUK)	Patient recruitment & clinical data analysis
Istituto Nazionale di Fisica Nucleare (INFN)	PET system development & characterization
AdvanSID (ASD)	SIPMs and chip-scale package development
WeeROC (WRC)	PET modules production & testing
Raytest GmbH (RAY)	Mechanical parts design & market strategy
RS2D (RS2D)	Design, assembly, test 1.5T MRI

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The 4 year project will run from 1<sup>st</sup> December 2013 until 30<sup>th</sup> November 2017.



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