

PRESS RELEASE

2D-BioPAD: A new Horizon Europe project kicked off!

We are thrilled to announce the official start of the 2D-BioPAD, a pioneering project funded by the European Union, under Grant Agreement No.101120706. With a nearly €6 million budget, this Horizon Europe Research and Innovation Action officially commenced in October 2023 and will last 48 months.

The project's kick-off meeting took place from October 10th to 11th, 2023, in Thessaloniki, Greece, hosted at the prestigious [Center for Interdisciplinary Research and Innovation](#) (CIRI) of the [Aristotle University of Thessaloniki](#). The kick-off meeting saw all project partners converge to discuss their roles, responsibilities, and aspirations for the successful realization of the project's specific objectives.

2D-BioPAD is developing a fast, reliable, cost-effective and digitally enabled Point-of-Care (PoC) In-Vitro Diagnostic (IVD) system for early Alzheimer's Disease (AD) detection. The 2D-BioPAD system employs cutting-edge 2D materials (i.e., graphene), nanomaterials and aptamers, to enhance biocompatibility, sensitivity, and specificity for simultaneously detecting up to 5 AD biomarkers in blood. The device will be accompanied by a user-friendly mobile app that will give real-time access to quantified results to healthcare professionals in primary healthcare settings. Along the way, Artificial Intelligence (AI) will be used for optimising the design and implementation of the 2D-BioPAD system.

Two clinical pilot studies will be conducted in three European clinical centres, in Germany, Greece and Finland, offering the necessary evidence for technical and clinical validation. Regulatory and Ethical considerations will be included in the 2D-BioPAD's design to allow for faster and widespread adoption.

The 2D-BioPAD consortium, under the leadership of [CATRIN-RCPTM](#) at Palacky University Olomouc, is composed of 11 partners across 8 European countries: Czechia, Denmark, Finland, France, Germany, Greece, Ireland, and Spain. The consortium members include: [Palacky University Olomouc](#) (UP), [Q-Plan International](#), [Catalan Institute of Science and Nanotechnology](#) (ICN2), [Grapheal](#), [Aristotle University of Thessaloniki](#) (AUPh), [Novaptech](#), [University of Eastern Finland](#) (UEF), [Greek Association of Alzheimer's Disease and Related Disorders](#) (GAARDR), [Envia](#), [Central Institute of Mental Health in Mannheim](#) (ZI), and [UNIVERSITY COLLEGE DUBLIN/NATIONAL UNIVERSITY OF IRELAND](#) (NUID UCD - [CeADAR](#)).

"The 2D-BioPAD project has officially kicked off! Our project aims to introduce a graphene-enabled fast, cost-effective, non-invasive, and reliable Point-of-Care diagnostic for supporting the early diagnosis and monitoring of AD directly in primary healthcare settings." said Aristeidis Bakandritsos, the project coordinator from UP.



Being one of the core governing members of the [Graphene Flagship Initiative](#), 2D-BioPAD is part of a large network of academic and industrial stakeholders, contributing to the advancement of Europe's strategic autonomy in technologies that rely on graphene and other 2D materials.



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