

The Project 2D-INK receives 3 million € from the EU

The European project [2D-INK](#) has received 2,962,661 € of funding from the EU Framework Programme for Research and Innovation Horizon 2020 as a Future and Emerging Technologies Action (FET Open).

[2D-INK](#) is targeted at developing inks of novel 2D semiconducting materials for low-cost large-area fabrication processes, which will exceed the properties of state-of-the-art graphene- and graphene oxide based inks. These semiconductive inks will provide the key parameters for fabricating the next generation of ultrathin electronic appliances (such as transistors, LEDs, and solar cells) using the same technology of current inkjet printers.

2D-INK will be developed by a strongly interdisciplinary research team composed of 9 partners: [POLYMAT, University of the Basque Country](#) (Spain), [CICECO-Aveiro institute of Materials, University of Aveiro \(Portugal\)](#); [ICMol, Universitat de Valencia](#) (Spain); the [Technische Universität München](#) (Germany); the [Katholieke Universiteit Leuven](#) (Belgium); the [Universität Wien](#) (Austria); the [University of Nottingham](#) (United Kingdom), [CIC NanoGUNE](#) (Spain), and the company [Graphenea](#) (Spain).

The group in CICECO will perform the computer modelling of the project. Computer simulations will be used to study the fundamental properties of the produced materials, help their characterization, as well as to perform in-silico design and screening of new materials.

The [FET-OPEN](#) (Future and Emerging Technologies) projects of the European Union support research lines in early stages, based on ideas that may arise new technology lines. Thus, the EU initiative encourages scientists and engineers from many disciplines to cooperate in research projects that promote scientific progress. It is noteworthy, too, that the European program FET-OPEN is a highly competitive call: only 24 of the 643 submitted projects (3.7%) have been funded across Europe.

PATENTS

The development of semiconductor inks from two-dimensional materials with different properties represent, according to the members of the consortium, "a major breakthrough in the field of new materials for the next generation of ultra-thin electronic devices such as transistors, LEDs, solar cells, photodetectors, etc.". The researchers also foresee the submission of patents, given the technological possibilities of 2D-INK and the involvement of a private company.