PRESS RELEASE

The GraphCAT community promotes the establishment of Catalonia as an international reference hub for innovation in graphene-based technologies

- **Research Institutes, technological centres, universities and companies join forces to accelerate the arrival of graphene-based technologies to market in areas such as health, optoelectronics, energy, and new materials**
- **On April 8th and 15th, the twenty entities that make up GraphCAT - members, associates and collaborators- will come together in a meeting where they will present the 10 innovation projects currently underway**.
- **The creation of two spin-off companies, INBRAIN Neuroelectronics and QURV, is one of the outstanding results obtained by the GraphCAT community, within the framework of the Intelligent Specialization Strategy of the Generalitat, RIS3CAT.**

Barcelona, April 7, 2021. This week marks the first meeting of the 10 member entities of the GraphCAT community —**ICN2**, **ICFO**, **IFAE**, **BIST**, **IREC**, **IDIBAPS**, **IMIM**, **IBM-CNM**, **Eurecat** i **UAB**, together with the associate organizations- research centres **ICIQ** and **IBEC**, **Fundació Barraquer**, companies **Earthdas** and **Graphenica**, and the *deep tech cluster* **Secpho** — and collaborating companies —**Keysight Technologies**, **INBRAIN Neuroelectronics**, **QURV Technologies** and **Sorigué**— to share the status of the innovation projects launched when the hub was created in 2019. The dynamic event will foster the interaction between partners and enable the identification of common goals and new opportunities for collaboration.

Graphene, a two-dimensional atomic crystal made up of carbon atoms arranged in a hexagonal lattice, has been called a wonder material due to its unique combination of superior properties. It is thin, light-weight, flexible, and highly electrically and thermally conductive, among other extraordinary characteristics, making it a promising enabling material for new disruptive technologies across a wide range of fields.

Catalonia, with internationally renowned scientists who are experts in the field, is well positioned to obtain a competitive advantage in the global marketplace through the development of innovative solutions based on graphene technologies. The creation of new companies that have spun out of research centres to commercialize these technologies,

coupled with the interest demonstrated by various local industries to integrate them into their products and services, endorses and boosts this potential.

The GraphCAT community, within the framework of the *Intelligent Specialization Strategy* of the Generalitat de Catalunya, **RIS3CAT**, was created precisely to promote the transfer of technology and to strengthen the local ecosystem of emerging high potential sectors, such as the network of graphene technologies.

The ***GraphCAT Community Building Event*** will take place on April 8th and 15th. The program combines sessions exclusively for members of the community, and session open to any person or entity interested in the innovation being developed in Catalonia in graphene technologies and the first results of its application to market demands.

In particular, on April 8th there will be presentations on the 10 projects that GraphCAT is promoting in four areas: **medical devices** (especially neural interfaces and implants**);** new integrated circuits incorporating graphene into CMOS technology for **optoelectronic applications** (spectrometry, cameras...); the production **of graphene and membranes**; and the harvesting and storage of **energy**.

Frank Koppens, ICREA professor and leader of the Quantum Nano-Optoelectronics group at ICFO, stresses, “it is really exciting to see graphene technologies moving from discoveries in the laboratories to concrete prototypes and products. The number of spin-offs is growing, and thanks to programs like GraphCAT the innovation potential is utilised.”

In a separate session, there will be a presentation of the work of spin-offs **INBRAIN Neuroelectrònics** and **QURV Technologies**, the creation of the which, in 2019 and 2020, respectively, is a clear indicator of the strength and potential of the GraphCAT community.

INBRAIN Neuroelectronics is a spin-off of ICN2 - the Catalan Institute of Nanoscience and Nanotechnology - that is developing brain implants based on graphene technology for application in patients with Parkinson’s, epilepsy and other neurological diseases. These smart devices, built around innovative graphene electrodes, will decode with high fidelity neural signals from the brain and produce a therapeutic response adapted to the clinical condition of the patient. The company has just completed a round of financing of 14.3 million euros that will allow it to accelerate the arrival of the various technologies to market.

QURV spun out from ICFO-The Institute of Photonic Science. Their portfolio of patent families for wide-spectrum image sensor technologies offer mass-deployable solutions to enable enhanced computer vision applications for increasingly autonomous and intelligent new technologies. QURV’s technology enables scalable manufacturing by combining CMOS technology and advanced materials with graphene in order to achieve new levels of performance, reliability and functionality in XR devices, service robots and automobiles.

Jose A. Garrido, ICREA professor and leader of the Advanced Electronic Materials and Devices group at ICN2, as well as founder of INBRAIN Neuroelectronics, believes that “the collaboration between public research and companies behind the GraphCAT community will accelerate the arrival to market of solutions for unmet needs. An example of such unmet needs are several pharmaco-resistant neurological disorders, for which graphene neural interfaces can enable novel neuroelectronic therapies.”

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About GraphCAT

The ultimate vision of the GraphCAT Community, coordinated by ICN2 and ICFO, is to establish Catalonia as an international reference in graphene research, development and innovation, with multiple local industries deriving strong competitive advantage in the global marketplace through the integration of proprietary graphene technologies into their products and services.

The GraphCAT Hub brings together diverse members of the graphene ecosystem in Catalonia. Its members are organizations and non-profit research centres. It also has associate members, who participate in some projects and dissemination activities, and collaborators, private companies with which members develop innovation projects.

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The Graphene Community of Catalonia

Members

ICN2 · ICFO · IREC Institut de Recerca en Energia de Catalunya Catalonia Institute for Energy Research · IFAE Institut de Física d'Altes Energies

UAB Universitat Autònoma de Barcelona · IDIBAPS · eurecat Centre Tecnològic de Catalunya · CNM Centre Nacional de Microelectrònica IMB

IMIM Institut Hospital del Mar d'Investigacions Mèdiques · BIST Barcelona Institute of Science and Technology

Associated Members

ICIQ Institute of Chemical Research of Catalonia · IBEC Institute for Bioengineering of Catalonia · BARRAQUER Fundación · EARTHDAS A GRAPHENE COMPANY

Graphenica · secpho

Collaborators

KEYSIGHT TECHNOLOGIES · INBRAIN NEUROELECTRONICS · qurv · soriguē

Press Contact:

Brook Hardwick
Communications
brook.hardwick@icfo.eu
T. +34 93 553 4002