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## A nanofabrication instrument installed at nanoGUNE enhances the Basque electron microscopy infrastructure

- The CRYO Plasma FIB installed at nanoGUNE is a unique new instrument for advanced nanofabrication and electron microscopy, one of the few in Europe and worldwide.
- The four Basque cooperative research centers (CICs) sign an agreement to offer industrial customers comprehensive electron microscopy solutions.

**Donostia-San Sebastian (Basque Country). 05 March, 2024.** CIC nanoGUNE ran a workshop today to present a new instrument (the CRYO Plasma FIB); it is one of the few in Europe and across the world and has been installed at the center recently. An agreement to enhance the Basque electron microscopy infrastructure was also presented. It was signed by bioGUNE, biomaGUNE, energiGUNE and nanoGUNE, cooperative research centers (CICs) that belong to the BRTA alliance, and its purpose is to offer research groups and industrial customers comprehensive electron microscopy solutions.

The CRYO Plasma FIB is a unique advanced nanofabrication and electron microscopy instrument, one of the few in Europe; it will be supporting research centers and industry in the Basque Country and around the world in fields such as materials science relating to low temperature physics, lithium-ion batteries for the energy sector, and cryogenic electron cell tomography. This new equipment has been funded by the Spanish Ministry of Science, Innovation and Universities, and constitutes a significant addition to complement the Basque electron microscopy infrastructure.

“The new equipment combines features that are not normally present together in a single instrument: a wide array of detectors for applications in the field of materials science; a large volume extraction option geared towards the battery sector and industry; and a cryo option typically geared towards biological applications,” explained Andrey Chuvilin, Ikerbasque Research Professor and leader of nanoGUNE’s Electron Microscopy group. “This combination of features within a single instrument is unique in Europe and also provides new research opportunities in materials science relating to low-temperature physics and in biological sciences relating to cryo-cell tomography,” added Chuvilin.

Andrey Chuvilin and his team of specialists have been offering advanced electron microscopy services in the Basque Country and abroad for years. During this time, they have been in contact with research centers and companies in various sectors to offer and develop customized services. The new tool, manufactured by the Czech company TESCAN, has been custom-designed by Andrey Chuvilin and his team to address specific scientific and industrial needs; to date, the Basque infrastructure has lacked the technical capacity for this.



## Signing of the agreement

With the arrival of this novel equipment, the four Basque cooperative research centers (CICs) — [bioGUNE](#), [biomaGUNE](#), [energiGUNE](#) and [nanoGUNE](#)— that are part of the BRTA alliance have signed an agreement to enhance the Basque electron microscopy infrastructure. “The aim of this agreement is to fully connect the Basque electron microscopy network between the centers and to be able to jointly offer comprehensive services of interest to the different research and industrial ecosystems in our area,” said Nicola Abrescia, Ikerbasque Research Professor at bioGUNE.

The incorporation of the CRYO Plasma FIB consolidates the electron microscopy infrastructure that the CICs have at the disposal of their research groups, and beyond, and which is open to the entire Basque, national and international network. The representatives of the four Basque cooperative research centers (CICs) concur with each other that “this latest incorporation and the signing of the agreement completes the Basque electron microscopy infrastructure, thus enabling it to meet all possible service demands from the academic and industrial spheres”.

## CIC nanoGUNE

The Nanoscience Co-operative Research Center CIC nanoGUNE, located in Donostia-San Sebastian, Basque Country, is a research center set up with the mission to conduct research excellence in nanoscience and nanotechnology with the aim of increasing the Basque Country’s business competitiveness and economic development. NanoGUNE is a member of the Basque Research & Technology Alliance (BRTA) and is also recognized by the National Research Council as a María de Maeztu Unit of Excellence.

[www.nanogune.eu](http://www.nanogune.eu)

