

nanocarbons

future is graphene





THE COMPANY

Nanocarbonoids is a technology-based company, created in 2018 and born from the collaboration between the University of Cartagena (UPCT) and the group Truccsa. Throughout the years several synergies, ideas and common interests have risen between both parties and have been materialised in this project with an evident investigative and innovative vocation.

Nanocarbonoids identifies, as its main activity, the development of nanomaterials with different applications and specifically, **graphene-based** materials and its derivatives, aiming for solutions and/or improvements for products or services, all of which are applied through **disruptive technologies** in different sectors.

With the development
of graphene-based
nanomaterials, we overtake
future technologies

2 NANOTECHNOLOGY AND GRAPHENE

Overtaking the future

Graphene is a crystal-clear sheet, hexagonally shaped, of carbon atoms with hybridisation sp^2 of a single atom thickness and in which the length of the C-C link is 1,42 Å, possessing excellent properties. Amongst them, its heat conductivity ($5300W \cdot m^{-1} \cdot K^{-1}$), its mechanical properties (module Young of 1 TPa and resistance to traction of 1100 GPa) and its electric conductivity ($2000 S \cdot cm^{-1}$) should be highlighted. Moreover, it can have different polymers added, with which it can interact efficiently thanks to its large surface area ($2650 m^2 \cdot g^{-1}$). Despite having considered other nanomaterials over the use of graphene, this is the nanomaterial that is generating the greatest interest, due to its peculiar properties.

These innovative **nanomaterials** stand out, mainly, because of the properties that nominate it to be the material par excellence in the future of electronics and IT; but it also features surprising mechanical properties. Graphene has marked a milestone in the world of materials in general, and nanotechnology particularly.

Problems such as the **decarbonisation of the planet**, the residue of certain products of troubling management, the 2030 agenda, the **SDGF**, make us aware and in constant study to get ahead of the problems that companies will be faced with in the foreseeable future.

Success case:

Nanocarbonoids has developed for Truccsa, multinational producer of mortar and cement derivatives, the highest CO_2 mineralising capacity mortar of the market. All this adjusting our procedures and projects to the standards of the **Sustainable Development Goals Fund (SDGF)**.



Develop hardware solutions for high climate, sanitary, antistatic performances, using nanotechnology in graphene-based materials in its broadest concept.

3 TALENT RECRUITMENT AND TEAM

The specialisation in certain sectors as concrete as **security and defence** or high technical capacities materials, specific products for **decarbonisation aligned with the 2030 agenda and the SDGF**.

Nanocarbonoids professionals must be recruited and trained early on their university degrees at UPCT by the company, setting a talent reservoir that Nanocarbonoids specially takes care of.

Engineers employed, graduates or different collaborative models that have led us after some years to take part in patents for different sectors.

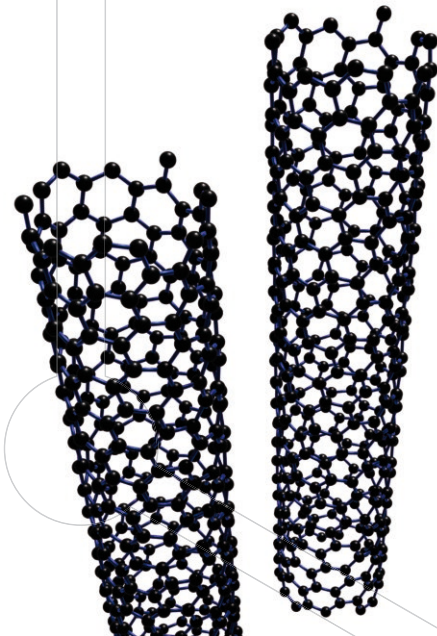
JOSÉ MANUEL : CEO
García Egea : Chief Executive Officer

ISRAEL : CTO
Gago Velasco : Chief Technology Officer

MIGUEL : CTO
Fernández Meca : Chief Communications Officer

BEATRIZ : SCIENTIFIC ADVISOR
Miguel Hernández

JAVIER : MARKET STUDIES AND INVESTMENT RESEARCH ADVISOR
Pérez de Vargas




.4 MAIN LINE OF WORK

Unless we take this technology to the final user, we will not have concluded the R&D process correctly.

Nanocarbons stands out by its capacity for adaptation of the technologies developed in laboratories to the industrial sector endowing the receptive company of technology, the capacity and implementation needed for an industrial production.

Nanocarbons is focused on:

- » **Development of products** that will solve certain limitations always through nanotechnology.
- » **The industrialisation of the productive processes**, line of work that evolves parallel to the research in laboratories, aiming for the industrialisation process to be less invasive over the existing processes. Finalising with this line of work the most important phase in innovation, the implementation.



.5 PRODUCT CATALOGUE

1 High performance mortars

- » Heat conductive mortars
- » Heated mortars for radiant floors
- » CO² mineralisation ability mortars

2 Composites (ABS systems, resins, others)

- » Diminishing thickness of the anti-puncture sheet
- » Increasing hardness of the finishing layers of wind turbines
- » ABS system life increase

3 Marine antifouling

- » Carbon footprint depletion
- » Diminished ships and offshore structures maintenance costs.

Both the mortars and the composites are endorsed by different patents



6 WHERE WE GO

With the objective of getting ahead of the new regulations that prioritise the recycling capacities of new products as well as the **limitation of CO² emissions**, other greenhouse gasses, etc., in sectors such as construction where European regulations turn out to be more rigid, Nanocarbonoids faces these challenges trying to outdo these requirements.

Products for the optimisation of maintenance and offshore structures that adapt themselves to the restrictions over marine pollution and CO² emissions and a long etc., make us have a closer **relationship with UPCT** and being a **technological partner of the Autoridad Portuaria of Cartagena** for the optimisation of the carbon footprint and the 2030 agenda.

Other processes as pioneering as energy generation through **hydrogen** where we will work towards the optimisation of certain aspects, as well as in some products and composites superhydrophobic and antibiotic for **post-covid** elements, place Nanocarbonoids at the forefront in aspects and products that will be necessary in the foreseeable future.

Our partners:




7 COLLABORATIVE MODEL OR ECONOMIC VIABILITY

With the ability to adapt and several models of collaboration in the works, the company will have, based on the technical viability of the project, different means of collaboration and the greatest respect for the SDGF, including, as spearhead, the decarbonisation.



^ **Recognitions and certifications**



We have been granted different acknowledgements and several publications in specialised journals



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