



3D Bricks Project

Newsletter

2025- Issue 2

Overview of the Project

The **3D Bricks** – *3D Biofabricated high-performance dna-carbon nanotube digital electroniCKS* is a 36-month project, which started in May 2023 (project number 101099125).

3D-Bricks provides a novel platform for next-generation electronic nanodevices, including logic gates, digital circuits, and memory systems. Hybrid DNA nanostructures and carbon nanotubes (CNTs) are being developed to realize high-density, three-dimensional (3D) stacked transistors, alongside a new suite of designs that reproduce all fundamental logic ports—fast, reliable, and easily interconnected through planar (2D) and 3D configurations. The same approach also supports the implementation of CNT-based non-volatile memory circuits. The development of hybrid DNA/CNT systems marks a paradigm shift in nanoelectronics and computing, where the demand for new devices increasingly outpaces the capabilities of conventional semiconductor technologies.

Partners:

The 3D-BRICKS consortium was specifically assembled to unite the largely cross-disciplinary expertise that is crucial for the ambitious objectives on 3D CNT nanoelectronics, and to implement the developed technology in industry. The consortium is led by the Italian Institute of Technology (IIT) with the participation of 10 partners



News

Recognition for 3D Bricks Research at NextMatCon 2025

Cristian Borja, doctoral researcher at the University of Antwerp, was awarded second place in the poster presentation competition at NextMatCon 2025 for his contribution to the 3D Bricks project. His poster, entitled Characterization of Carbon Nanotubes Doped by Endohedral Filling for Next-Generation Nanoelectronics Applications, highlighted the potential applications and technological impact of carbon nanotube-based materials.

The conference was held on 17 October 2025 in Belgium, and was organised by the MRS-E/MRS Joint Chapter of Hasselt University. The event brought

together leading researchers and innovators in the field of advanced materials.



Discover partners achievements at the 3D-BRICKS Virtual EXPO, now live online

CNT Innovation, responsible for the project's dissemination activities, has launched a virtual EXPO designed to spotlight partner achievements. Each organisation is featured with its own exhibition stand, showcasing products, services, and contributions to the project.

The 3D-BRICKS Virtual EXPO is hosted on the MedLoCexpo platform, which can be accessed via this link: www.medlocexpo.net/3d_bricks_expo/. The virtual EXPO is also accessible directly via the Project website homepage—making it easy to explore and connect with the innovation on display.



Future Events

Advanced Bio-nano Electronics Symposium – 25 February 2026

The 3D-Bricks Project is delighted to announce its upcoming online **Symposium on Advanced Bio-nano Electronics**, taking place on **Wednesday, 25 February 2026**.

Participation is free of charge, but **registration is required**. [<https://forms.gle/pmGPq4ejHxRxVtHfA>]

The full programme and further details will be shared in the New Year—stay tuned for updates!

SAVE *the* **DATE**



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