GEIC Signs NERD as Tier 1 Partner for Sustainable Construction Tech

2023-01-31

Nationwide Engineering Research & Development (NERD) has signed a Tier 1 agreement with The University of Manchester's Graphene Engineering Innovation Centre (GEIC), extending the ecosystem of key industrial partners working collaboratively on graphene and 2D material commercialisation at the University.

NERD is a standalone company, spun out from Nationwide Engineering Group, formerly Tier 2 partners of the GEIC and responsible for the initial development of Concretene, a graphene-enhanced admixture for concrete that saves significantly on CO2 emissions and overall project costs.

In December, NERD announced funding of £8m from venture capital firm Local Globe to help drive the programme of research and development required to bring Concretene to full commercial use.

The Tier 1 agreement provides for use of a dedicated lab within the Masdar Building, state-of-the-art concrete testing facilities and access to the unrivalled academic and engineering expertise in nanomaterials housed at The University of Manchester, the home of graphene.

Co-founder of NERD Alex McDermott is a civil engineering graduate of the University and is excited about his return to North Campus to deliver what he hopes will be the start of a new generation of sustainable construction materials.

"I'm a Manchester lad from Failsworth and I did my degree here, so it's great to be back and helping to design solutions for an industry that urgently needs to decarbonise," he says.

"We're looking to build on the work we've already done with the GEIC in lab trials and real-

world projects and take Concretene on to the next stage of full commercial rollout. There's still a journey to go on - R&D in this area is challenging - but the partnerships we're building with the University and with high-profile industry clients give us the best chance of success."

James Baker, CEO of Graphene@Manchester, said: "We have been working with Nationwide Engineering from the very beginning to help develop Concretene – and therefore delighted to welcome NERD to the GEIC as a Tier 1 partner. This is an important milestone in this ambitious project and one we can all be very proud of.

"In the past 18 months, we have rapidly gone from lab to pilot stage - and then scaled up to create 'living labs', including a pioneering pour just outside the GEIC. But we are still at a relatively early stage along the road to commercialisation.

"This new Tier 1 partnership will greatly help Concretene achieve its full potential to deliver a game-changing material to help us build more sustainably in the future – we look forward to taking this programme to the next stage of delivery."

NERD envisions a three-year journey to the roll-out of Concretene to the wider construction industry, alongside technical partner Arup – the globally renowned provider of engineering and design services for the built environment - and leading infrastructure bodies including Heathrow and Manchester Airports, Network Rail, National Highways and the Nuclear Decommissioning Authority.

These early adopters will see immediate benefits through reductions in embodied carbon, while assisting in the programme of laboratory work and large-scale field trials that will ultimately prove the reliability and reproducibility needed for successful commercial deployment of Concretene.

Matthew Lovell, Director at Arup, said: "Continued innovation in the production of concrete and leaner design techniques are needed to support the construction industry's journey towards net zero carbon emissions.

“Arup is extremely interested in Concretene’s potential to support transformative change in the built environment. Imagine what concrete with both enhanced engineering performance and substantially reduced carbon impact could contribute to our industry.”

Professor Bill Sampson, Chief Scientific Officer, GEIC, said: “I’m delighted to see Nationwide joining the GEIC as a Tier 1 partner. I look forward to working with them, with the support of academic colleagues from across the University’s Faculty of Science and Engineering, to better understand and deliver the full potential promised by graphene-enhanced cementitious materials.”

Read the original article on University of Manchester.