

26th August 2024

Funding secured to advance commercialisation of Kainos Technology

Highlights

- **Progressing commercialisation of graphite-producing cavitation technology with a grant of ~A\$192,000**
- **Objective is to develop a manufacturing process for making synthetic graphite and pristine graphene**
- **Kainos Technology could deliver a preferred synthetic battery grade graphite source compared to a conventional mining and processing**

First Graphene Limited (ASX:FGR; “First Graphene” or “the Company”) has secured funding for a collaborative research project with Swansea University (“Swansea”) to determine the market potential of the Company’s Kainos Technology.

The grant is valued at approximately AU\$192,152 and was secured through Analysis for Innovators (A4i) Round 12, Stage 2 funding, delivered by Innovate UK. The funding is specifically for businesses utilising expertise from leading research facilities across the UK to overcome productivity or technical barriers of new technologies towards market readiness.

The six-month project will provide a greater understanding of First Graphene’s Kainos Technology and its ability to produce high-quality, battery-grade synthetic graphite and pristine graphene from petroleum feedstock using a scalable hydrodynamic cavitation manufacturing process.

This process has also demonstrated the ability to produce green hydrogen as a by-product in previous research by the Company¹.

With the technology already proven at the laboratory scale, this project will focus on using controlled experimentation and analysis to interrogate the hydrodynamic cavitation process.

This will support the development of modelling techniques at Swansea University that will underpin the Company’s design basis for scaling up the Kainos Technology in collaboration with the energy industry.

Decarbonisation potential of Kainos Technology

This new process is particularly well suited for oil refineries where high-quality feedstocks and engineering capabilities are available, whilst the green hydrogen by-product can be utilised as a

¹Refer to ASX Announcement ‘FGR attracts Middle East investment support for Kainos Tech development’ from 3rd October 2023.

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clean and green energy source to reduce carbon emissions.

This has been identified as a particularly beneficial technology for the oil and gas sector as it looks towards greener, lower carbon energy options.

The process simultaneously helps meet the growing demands for battery materials powering the EV automotive sector by producing high-purity graphitic materials that would otherwise be produced by conventional mining and processing methods.

This collaborative project follows First Graphene signing a binding Memorandum of Understanding (MOU) with Abu Dhabi-based integrated services provider EMDAD group in October 2023.

The MOU will result in the two companies developing and providing a proposal to fund a small scale, hydrodynamic cavitation reactor, using First Graphene's Kainos Technology.

The proposal could result in the commissioning of this combined technology for use in the oil industry to convert petroleum feedstock to battery-grade graphite, graphene and hydrogen.

First Graphene Managing Director and CEO Michael Bell said:

"As global demand for battery-grade graphite and graphene increases, so does the need to find and secure strong supplies of these raw materials.

"First Graphene's Kainos Technology shows real potential as a scalable way to manufacture synthetic graphite and graphene, offering a commercial alternative to mining.

"The grant received through the A4I funding competition, via Innovate UK, will greatly support the team of researchers investigating the process behind our hydrodynamic cavitation technology.

"I look forward to providing further updates as we advance commercialisation of our Kainos Technology to deliver the materials needed to power global decarbonisation and electrification."

-Ends-

This release has been approved for release by the Chairman.

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About First Graphene Ltd (ASX: FGR)

First Graphene Limited is focused on the development of advanced materials to help industry improve. The Company is a leading supplier of graphitic materials and product formulations with a specific commercial focus on large, high-growth global markets including cement and concrete; composites and plastics; coatings, adhesives, sealants and elastomers (CASE); and energy storage applications.

One of the key outcomes these advanced materials offer is the reduction of carbon dioxide emissions, whether directly through a reduction in output of these harmful greenhouse gases or lower energy usage requirements in manufacturing, or indirectly due to enhanced performance characteristics and extending the usable life of products.

First Graphene has a robust manufacturing platform based on captive and abundant supply of high-purity raw materials, and readily scalable technologies to meet growing market demand. As well as being the world's leading supplier of its own high performance PureGRAPH® graphene product range, the Company works with multiple industry partners around the world as a supplier of graphitic materials and partner to research, develop, test and facilitate the commercial marketing of a wide range of sector-specific chemical solutions.

First Graphene Ltd is publicly listed in Australia (ASX:FGR) and has a primary manufacturing base in Henderson, near Perth, WA. The Company is incorporated in the UK as First Graphene (UK) Ltd where it has a strong R&D capability.

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