

Research Partnership with University of Warwick (UK)

HIGHLIGHTS

- **Collaborative project with the University of Warwick (UK) to focus on applications of graphene in polymer systems of plastics and rubbers**
- **Study collaborates with esteemed University Professor, Tony McNally to research the next tranche of graphene enhanced products**
- **First Graphene has first right on any new IP developed**

First Graphene Limited (“ASX: FGR” or “the Company”) today announced a research collaboration with world-leading experts at the University of Warwick to enhance the understanding of graphene in a range of polymer systems such as plastic and rubber.

The PhD Project will be conducted under the Warwick Collaborative Post Graduate Research Scholarship Scheme, in conjunction with the Warwick Manufacturing Group (WGM) that has established a world-recognised model for successful collaboration between academia and the private and public sectors. WGM has strong links with world-leading industrial partners such as Jaguar Land Rover, who announced in late 2019 they were relocating their advanced research group to the facility.

First Graphene will collaborate with the University’s Professor Tony McNally, who have established capability in incorporating nanomaterials, including carbon nanotubes and graphene into bulk polymer systems.

Using graphene as an additive in thermoplastic materials gives an improvement in properties such as mechanical, electrical, thermal, fire retardancy, chemical resistance and gas barrier. This provides the potential to move lower cost polymers such as polyolefins and polyamides up the “plastics performance pyramid,” creating new value for plastic manufacturers. Potential uses for these enhanced engineering plastics are light-weighting in automotive and aerospace as well as the delivery of a new generation of high-performing fire-retardant plastics in mass transport, construction, mining and oil & gas.

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The project will combine WMG's capability and First Graphene's operational experience of graphene production and processing to investigate and optimise the impact of surface chemistry, the use of additives and optimising the mixing process technology to deliver further improvements in the properties of graphene-enhanced polymers. Existing First Graphene customers will benefit from this research, which will also enable a new range of PureGRAPH[®] enhanced polymer and rubber systems.

First Graphene Managing Director Craig McGuckin says this new collaboration is significant and necessary.

"It reaffirms our position as the leading graphene producer and innovator. We recognise Warwick University and Warwick Manufacturing Group's world leading expertise and our need to keep investing in collaborative projects to keep delivering improvements," Mr McGuckin said.

"This research, which will comprise a PhD project over a three-and-a-half year period, will unlock graphene's potential to improve strength, durability and the lifespan of a range of polymer systems."

Professor McNally, who is Professor in Nanocomposites and Director of the International Institute for Nanocomposites Manufacturing (IINM) at WMG, says he is delighted to be collaborating with First Graphene on this fundamental research.

"I look forward to working with their research team on this project which will drive real benefits in the industrial use of thermoplastic materials in a range of real-world applications," Professor McNally said.

Mr McGuckin says using graphene as an additive in thermoplastic materials improves mechanical, electrical, and thermal properties particularly in the areas of fire retardancy, chemical resistance and gas barriers.

"This provides the potential to move lower cost polymers such as polyolefins and polyamides up the so-called 'plastics performance pyramid' creating new value for plastic manufacturers."

The Warwick Manufacturing Group (WMG) has a world-recognised model for successful collaboration between academia and the private and public sectors.

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About First Graphene Ltd (ASX: FGR)

First Graphene Ltd. is the leading supplier of high-performing, graphene products. The company has a robust manufacturing platform based upon captive supply of high-purity raw materials and an established 100 tonne/year graphene production capacity. Commercial applications are now being progressed in composites, elastomers, fire retardancy, construction and energy storage.

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. and is a Tier 1 partner at the Graphene Engineering and Innovation Centre (GEIC), Manchester, UK.

PureGRAPH® Range of Products

PureGRAPH® graphene powders are available in tonnage volumes with lateral platelet sizes of 20µm, 10µm and 5µm. The products are high performing additives, characterised by their high quality and ease of use.

*With authority of the board, this announcement has been authorised for release, by Peter R. Youd
Director, Chief Financial Officer and Company Secretary*