

1<sup>st</sup> November 2021

## **Funded program investigates graphene-enhanced gloves for the nuclear decommissioning industry**

### **HIGHLIGHTS**

- **First Graphene secures a funded development project with Sellafield's Game Changers Programme**
- **Project will assess the use of graphene in long rubber gloves (gauntlets) fitted in gloveboxes and used by operators in the nuclear decommissioning industry**
- **Pending a successful outcome, gauntlets are expected to go into mass production within 12 months**

First Graphene Limited (ASX:FGR; "First Graphene" or "the Company") is pleased to advise it has secured a funded development project to look into the feasibility of enhancing long rubber gloves, or gauntlets, used in the nuclear decommissioning industry.

The project, conducted through Sellafield's Game Changers Programme which connects innovative solutions to complex nuclear industry challenges, aims to develop needlestick and puncture-resistant rubber gauntlets for operators who are using decommissioning gloveboxes at the United Kingdom's Sellafield Nuclear Site.

The gloveboxes can contain hidden sharp objects, such as cropped cables, pipework or needlesticks, that could tear or puncture gauntlets and thus expose handlers to harmful radiation. The objective is to develop gauntlets that will keep the operator's hands safe without significantly reducing dexterity or increasing the weight or load.

Following a competitive tendering process, First Graphene's proposal to investigate the feasibility of using the Company's PureGRAPH<sup>®</sup> graphene technology was selected.

Initial development work conducted by First Graphene's Research and Development team has shown that the addition of PureGRAPH<sup>®</sup> in certain rubber systems can increase tear strength and puncture resistance. During the 12-week project, the Company's R&D team will focus on rubber systems and relevant test methods to prove the concept. The company will utilise its know-how in dispersing graphene into rubber to improve the mechanical strength of the gauntlets, allowing their thickness to be reduced. This has the potential to enhance operator dexterity without compromising on safety.

Sellafield Ltd has stated that an ideal scenario would result in a material which can be made into a gauntlet to replace both the gauntlet and the cut-proof inner or over-gloves, allowing them to be at the point of mass production and procurement within one year. The parties will then collaborate to extend the improved products to adjacent high-volume markets.

First Graphene also sees potential to expand applications for improved mechanical performance into the broader protective glove market, which had a global value of US\$12.37 billion in 2019 and is projected to reach \$35.20b by 2027.

# ASX ANNOUNCEMENT



Michael Bell, Chief Executive Officer of First Graphene said: "This opportunity allows us to showcase the versatility and capability of our PureGRAPH® product in safety critical applications. Graphene provides an opportunity to deliver enhanced safety performance without significantly impacting the durability, dexterity or weight of gloves, opening the potential for First Graphene to target another multi million dollar global market."

## Investors

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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 and **PureGRAPH® AQUA** pastes with lateral platelet sizes of 50µm, 20µm, 10µm and 5µm, as well as **PureGRAPH® MB-LDPE 20-30** and **PureGRAPH® MB-LDPE EVA** masterbatches for thermoplastics, are available in tonnage volumes. The products are high performing additives, characterised by their high quality and ease of use.

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### Trading Symbols

**Australia:** FGR  
**Frankfurt:** FSE:M11  
**USA OTCQB:** FGPHF

With authority of the board, this announcement has been authorised for release by Aditya Asthana, Chief Financial Officer and Company Secretary.