

December Quarterly Activities Review

Progress Continues Apace

HIGHLIGHTS

- Steel Blue progressed field trials on PureGRAPH® enhanced safety boots (sales contract announced since quarter end)
- Ongoing field trials with PureGRAPH® enhanced bucket liners demonstrated improved wear characteristics.
- Increased engagement with potential customers resulting from FGR's focussed website and attendance at industry exhibits.
- Continual advancements in operating efficiencies at Henderson plant

Overview

First Graphene has continued to make substantial progress in its objective of commercialising the PureGRAPH® range of graphene products during the December quarter. PureGRAPH® has provided a range of improved performance characteristics in a number of products to which it is added.

The Company continues to maintain a strong working capital position, which will drive the growth of First Graphene with increased production efficiencies and higher manufacturing throughput, market development with new customers and novel graphene applications and global supply capabilities.

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ASX Symbol

FGR

FGROC

Frankfurt Stock Exchange

FSE:M11

Steel Blue and First Graphene showcased safety boots at the Polymers in Footwear event in Berlin

In November 2019 FGR and Steel Blue gave a joint presentation at the above exhibition and showcased PureGRAPH® enhanced safety boots. First Graphene Ltd and Steel Blue explained how PureGRAPH® had enabled the development of a range of unique boot component technologies and user benefits which have the potential to revolutionise the safety boot market.

The prototype boots have been manufactured using First Graphene's PureGRAPH® graphene additives. Unlike competing formulations, this is available in high production volumes with non-aggregated, uniform-sized graphene; this ensures it disperses evenly in thermoplastic polyurethane (TPU) masterbatches. The prototype boots incorporate PureGRAPH®-infused TPU soles and polyurethane foam insoles and had undergone extensive laboratory testing in accredited laboratories.

Tests had been conducted at Viclab Pty Ltd, one of Australia's leading NATA accredited and independent mechanical testing services. The prototype boots complied with the following test procedures;

- Impact resistance
- Upper to outsole bond
- Interlayer bond strength
- Slip resistance on ceramic tile floor with NaLS and on steel floor with glycerine
- Sole crack resistance
- Tear strength
- Abrasion (TPU)
- Tensile
- Hydrolysis
- Fuel oil resistance
- Chemical exposure (NaOH)

Steel Blue have continued to test different applications and processes, with ongoing measuring of outcomes by Viclab Pty Ltd. The collaboration led to the successful manufacturing of prototypes, and these are currently being wear trialled in a variety of working environments.

The new boot from Steel Blue incorporates innovative technology with new design solutions to provide significant improvements to safety footwear protection and comfort.



Steel Blue Head of Product Innovation, Neil Wright (left) with First Graphene Chief Technology Officer, Dr Andy Goodwin at the Graphene Engineering and Innovation Centre

Positive Interim Results from Mining Industry Field Trials

In December, FGR was pleased to announce an update on the Armour-GRAPH™ bucket liner provided by newGen to a major Pilbara iron ore producer.

newGen had provided an Armour-GRAPH™ bucket liner to a major iron ore producer for trial which contained PureGRAPH®20. The bucket had been in use for in excess of 12 weeks at the time it was inspected by the client for assessment of wear, with very pleasing results. The next assessment is due to be undertaken in January.

Preparations were underway to trial PureGRAPH® enhanced materials in equipment used by a second iron ore producer.



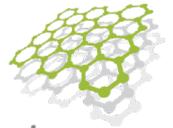
newGEN's Armour-GRAPH™ bucket showing limited wear after twelve weeks in service

Continued Growth in Customer Engagement

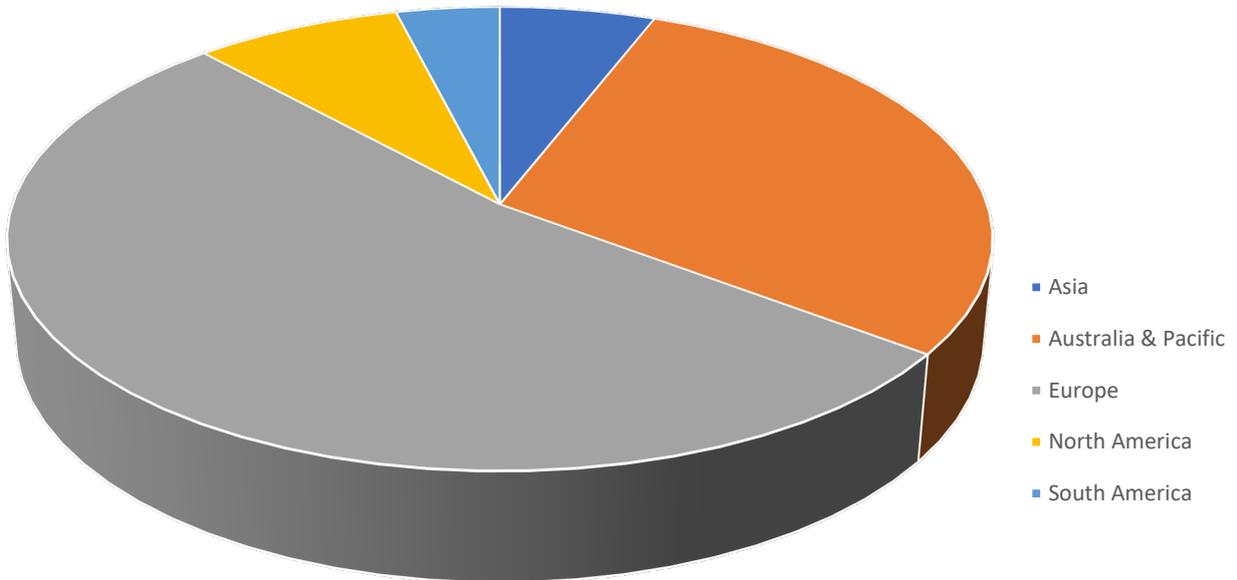
Customer growth continued apace during the December quarter, with engagements in the UK, Europe, Asia and Australia markets. The Company's focus continues to be in the development of elastomers and plastics and the composites industries as it is these markets which have the potential to generate the largest volume of sales.

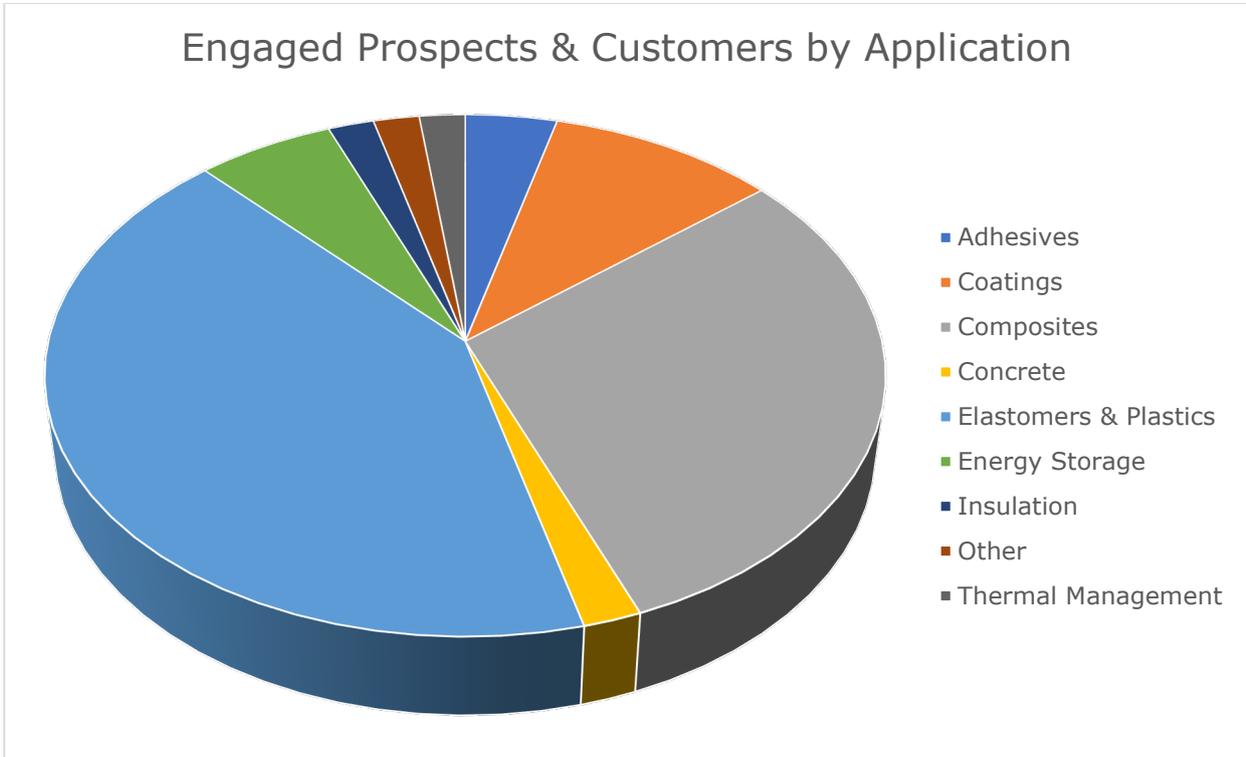
Activities at the GEIC, Manchester,UK

The Company continues to make effective use of its presence as a Tier 1 partner at the Graphene Engineering and Innovation Centre, where the facilities are routinely used to host customer visits and the capabilities deployed to prepare PureGRAPH® dispersions for a range of customer evaluations; from TPU elastomers to coating precursors. The UK team have developed a strong relationship with the academic departments with active relationships with the Chemistry, Civil Engineering, and Composites & Textiles departments.



Engaged Prospects & Customers per Region





2019 – A Year in Review

The 2019 calendar year has seen FGR make considerable progress as the world's leading graphene company. The Company has continued to automate its production process, maintain its high-quality standards and develop its in-house product development and testing platform.

Customer engagement has accelerated as a result of the marketing efforts and the release of the Company's B2B focussed website.

2019/2020 Timeline

Feb 2019

FGR announces collaboration with Steel Blue to develop graphene enhanced safety boots



FGR applies for NICNAS listing of PureGRAPH® in Australia

Apr 2019

Exhibit at the *Advancing Composites Innovation Conference*, Sydney

Exhibit at *Graphene & 2D Materials* (IDTechEx event), Berlin

The Australian Securities Exchange (ASX) reclassifies FGR to "Speciality Chemicals" sector, reflecting the change in the status and activities of the Company

Jun 2019

Release of significant fire retardancy test results in PureGRAPH® enhanced polyurethane products

FGR exhibit at *Evolving Concrete Conference*, Reading, UK



Aug 2019

Early exercise of FGROC options raises \$5.6m

newGen sign a new Supply Agreement for 3000kg of PureGRAPH®

The first PureGRAPH® enhanced safety boots are produced by Steel Blue



Oct 2019

Dec 2019

FGR exhibit at the *Graphene Industry Showcase*, Manchester

Further positive results announced from mining industry trials



Jan 2019

FGR joins *REACH consortium* for registration of PureGRAPH® in the UK and Europe enabling sales of 10 tonnes per year in Europe

FGR UK team established and research lab opened at GEIC, Manchester

Mar 2019

Dr Andy Goodwin presents at the *Graphene Automotive 2019* conference & exhibition in Detroit USA



May 2019

Further overseas interaction, with presentations at the *American Graphene Summit*, Washington DC



Discussions with EPA, Washington to determine regulatory requirements for USA

NICNAS approval received, making FGR the only entity registered to produce, import or sell graphene in Australia

Jul 2019

FGR further secures its supply position by ordering an additional 500 tonnes of graphite from *Kahatagaha Graphite Lanka Limited (KGLL)*

PureGRAPH® sales commence to *newGen* and other UK and European customers

Dr Andy Goodwin provides a technology update at the *CNPComp 2019*, London

FGR launches a new B2B orientated website. Considerable sales leads generated since its release

Sep 2019

FGR exhibit at *Composites Europe 2019*, Stuttgart

First Graphene signs an exclusive worldwide licensing agreement with the *University of Manchester* to develop graphene-based materials for supercapacitors. EPSRC funding awarded by UK government for supercapacitor composition development.



Nov 2019

FGR and Steel Blue showcase PureGRAPH® enhanced safety boots at *Polymers in Footwear*, Berlin. A number of sales leads generated

Kg scale-up of University of Manchester licensed product proven at Henderson, WA

Jan 2020

Steel Blue signs supply agreement for 2000kg of PureGRAPH® gearing up production of graphene enhanced safety boots

Strong advances in VFD development

There has been extensive field testing by customers of the PureGRAPH® range of products, all of which have been successful and resulted in ongoing collaboration. That this process has not manifested itself in more extensive sales is the one area of disappointment. However, as previously stated by Warwick *“The larger the organisation the longer the time frame that would typically extend beyond 12 months. Offsetting this though is the prospect of larger size sales.”* The Board of Directors and Senior Management team see 2020 as the year in which FGR will achieve significant sales growth, having built a very solid base during 2019.

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
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Director, Chief Financial Officer and Company Secretary*

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