

A Focus Graphite Related Company Introduces a Novel Freestanding Nano-porous Membrane Technology to Extend Battery Life

KINGSTON, ONTARIO--(Marketwired - Mar 14, 2017) - Grafoid Inc., a Canadian graphene R&D, investment and technology licensing company announced today the development of its GPURE Graphene Polymer nano-porous membrane intended for next generation Li-Ion battery applications.

Grafoid's largest shareholder is [Focus Graphite Inc.](#) (TSX VENTURE:FMS)(OTCQX:FCSMF)(FRANKFURT:FKC), owner of the Lac Knife high-grade graphite deposit in Quebec. Focus Graphite holds two off-take agreements with Grafoid to supply it with high-purity graphite for graphene application commercialization with joint venture partners.

The GPURE graphene polymer membrane (GPM) technology is the seventh graphene-based companion to the company's expanding GPURE Platform of new, high performing, ultra-thin materials for diverse industrial applications.

The GPURE GPM product was developed as a chemically inert, freestanding membrane using graphene composites to test ion selectivity using both monovalent and divalent ions. Ion selectivity is a key requirement for a semi permeable membrane in a Li-ion battery structure.

By protecting the chemically sensitive electrode materials from unwanted chemical species GPURE GPM diffuses only energy harvesting monovalent ions such as Li⁺, Na⁺ etc. Conventional membranes lack such unique property.

To view Figure 1 please click the following link: <http://media3.marketwire.com/docs/FocusFig1314.pdf>

Grafoid President and Chief Executive Officer Gary Economo described Grafoid's entry into the battery membrane market as a potentially important technological solution for improving battery life cycling.

"Our GPURE membrane innovations and inventions for next generation battery applications are intended to enhance performance, extend battery life and improve safety," Mr. Economo said.

Goldman-Sachs Equity Research in its September 27, 2016 report, "Charging the Future" estimated the global automotive separator market was worth approximately 600 million US\$ in 2015, totaling around 0.5 billion m² on a surface-area basis and rising to \$1.5 billion by 2020. This number is expected to grow to 7 billion m² by 2025, in line with the growth of gigawatt hours in automotive batteries.

On February 16, 2017 Grafoid unveiled its initial family of GPURE Platform membrane technologies spanning a range of scalable industrial applications requiring novel, disruptive solutions to create new products or enhance or supplant existing membrane technologies.

GPURE membranes include:

GPURE (A) - *A high performing, free-standing membrane developed for water desalination applications*

GPURE (B) - *A stable, large area membrane developed for wastewater filtration suitable for very high temperature operating applications*

GPURE (C) - *A large area free-standing membrane developed for water filtration pre-treatment and may be suitable for use in gas separation applications and may be used as a lightweight component for automotive and sports equipment applications*

GPURE (D) - *A large area membrane that may be used for gas separation and sensing applications*

GPURE (E) - *A large area membrane intended for use in gas separation applications*

GPURE (F) - *May be applied as a graphene varnish for wood surfaces to protect against moisture, UV light and high temperatures*

About Grafoid Inc.

Grafoid is focused on four areas of graphene-related technology development for industrial adoption. They are: graphene based materials for energy creation, storage and transmission; graphene based polymers, graphene coatings and graphene based membranes, for all industrial sectors.

Grafoid is a Canadian graphene R&D, investment and technology licensing company. The company provides expertise as well as product and processes for transformative, industrial-scale graphene applications in partnership with leading corporations and institutions around the world.

A privately held Canadian corporation, Grafoid invests in graphene applications and economically scalable production processes for graphene and graphene derivatives from raw, unprocessed graphite ore. [Focus Graphite Inc.](#) holds a significant interest in Grafoid Inc.

Grafoid's research is supported through the Industrial Research Assistance Program (IRAP) of the National Research Council of Canada, and, on February 20, 2015, Grafoid received an \$8.1 million investment from the SD Tech Fund^{™} of Sustainable Development Technology Canada (SDTC) to develop a technology that will automate Mesograf^{™} graphene production and end-product development. SDTC is mandated by the Government of Canada to support clean technology companies as they move their technologies to market.

For more information about Grafoid, please visit <http://www.grafoid.com>.

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