

# Grafoid enters the electric vehicle race with the Braille Battery acquisition

Grafoid Inc., part of Focus Graphite ('Focus', TSX.V: FMS | OTCQX: FCSMF | FSE: FKC), announced that it acquired 75% of Braille Battery (Braille), which has designs and manufactures lightweight Li-Ion batteries for the automotive market. The acquisition will allow Grafoid to gain a high profile platform through which to develop graphene, which will be used by Braille to improve the performance of their batteries. Braille has built its technology and reputation, supplying batteries to Formula One, NASCAR and Indy racing teams. Automobile racing subjects man and machine to high levels of stress. Apart from performance, these sports provide an ideal platform to test the limits of reliability for any given technology used in the cars. Braille's racing activity has given it an ideal experience to approach other sectors where reliability and performance are crucial, namely medical and military applications.



Braille is based in Florida and it has experience making both lead-acid batteries (AGM) of very high quality (not too heavy), studied for road racing competition and Li-ion batteries. In 2009, Nissan Motors recently chose Braille to develop a full on hybrid race car based on its popular family sedan, the Altima Hybrid. The standard car was trimmed in weight and the back seat replaced by a large big high-voltage battery. The mechanical engine was improved for power using a supercharger while the electric motor gained 20 kilowatts thanks to the larger capacity battery. The car was presented at the world famous SEMA Show in Las Vegas, taking part in other promotional events, including a crossing of the United

States (One Lap of America). The car has retained its safety equipment, its bumpers are those of the production car, and it has a legal exhaust. Braille modified the car with an ecological outlook, using special materials such as non toxic paint (by DuPont), a roof covered with solar cells and many parts made of carbon fiber, such as the rear diffuser and spoiler. The advantage for Grafoid is that Braille has already acquired a reputation in using novel materials, making them available to the wider public in high visibility events. Braille, therefore, offers Grafoid an ideal platform, or a veritable showcase, for its MesoGraf™ ('Mesograf') material.

MesoGraf') represents an ideal platform for the industrialization and commercialization of graphene, bringing to market and to the public the world of graphene research with actual commercialization of the material. Until very recently, graphene has been prohibitively expensive for industrial use. Graphene is composed of only one layer of carbon atoms which must be isolated and then arranged in a honeycomb structure, which is the key to its high strength. For years since the discovery of graphene in 2004, laboratories have been trying to come up with an economically viable method to produce the material. Many have claimed 'revolutionary' discoveries to bring this material into a mass production cycle but little has actually developed. MesoGraf, however, is much closer to becoming the elusive mass production graphene that so many have been trying to achieve.

MesoGraf was developed by Dr. Loh Kian Ping and Grafoid co-founder Dr. Gordon Chiu. The main difference between MesoGraf and all other attempts at developing a graphene material is that MesoGraf is finally able to offer the scalability that is needed to bring the material's potential to the market. A scalable graphene material implies that it can be made to address a large increase in users and applications without undue effort. Scalability has been the 'weak link' in graphene until now. MesoGraf will be derived using natural flake

graphite ore from Focus's Lac Knife deposit in Quebec in a patented one-step process. Even this process is 'scalable' because, it can use any graphite ore with 10% or higher purity. Graphene will make its way in many electronic devices such as smartphones, tablets, connected devices, batteries or flexible displays. But it will also be used in the manufacturing of extremely durable structures in the civil engineering, aerospace and automotive sectors. Braille can serve as the platform to research and develop lighter and more efficient Mesograf based batteries with direct access to the growing electric and hybrid automobile sector. Until recently, Grafoid and its parent Focus Graphite have been involved in advanced applications for lithium iron phosphate (LiFeP) battery materials in partnership with Hydro-Québec and the development of graphene-based repayment cancer therapies in partnership with Calevia Inc.

Graphene, despite its one atom thickness and chicken wire structure, is extremely strong, perhaps the strongest material available today, and extremely conductive, which renders it ideal for use in countless applications from batteries to airframe composites and as cooling agents. Graphene has the potential to be used in applications representing all industrial sectors and its potential is seen as rivaling the role of silicon. However, unlike silicon, the new miracle material is not mass produced yet, because it remains prohibitively expensive. MesoGraf has now filled this gap, setting the stage for all the various graphene innovations to come to market. Grafoid recently set up a special research facility in Kingston, Ontario, that was inaugurated on August 20. , Grafoid will promote – and benefit from – academic research and development through partnerships with other industries and academia, contributing to the growth of its business and benefit from the mutual transfer and of technology between universities and industry. While Grafoid develops the Mesograf and other graphene materials, its partner Focus Graphite is edging ever closer to the production

stage at the Lac Knife project.