ASX Announcement

12 July 2108

BEST™ Battery Technology Update

Highlights

- Significant advances in the design and installation of equipment and the scaling up of the manufacturing process
- Circuitry design has been improved to allow employment of 25 lasers simultaneously
- Technology readiness level now at TRL 4 i.e. approaching technology demonstration level

Advanced materials company, First Graphene Limited ("**FGR**" or "t**he Company**") (ASX: FGR) is pleased to provide an update in relation to the BEST™ Battery Supercapacitor project with Swinburne University of Technology. FGR is earning a 70% interest in the private company that has an exclusive international licence to the BEST™ Battery.

Background

While lithium-ion battery technology is the most universally recognised method of storing energy for a wide range of uses, it is not without its issues. These result from the storage and release of energy through chemical reactions which have safety implications. They also impose restraints on the speed at which batteries can be recharged and the degradation of batteries through these reactions eventually causes their lives to be limited to approximately 1,000 cycles.

The objective of the BEST™ Battery Project is to take the science that has been proven by Swinburne and scaling up the manufacturing process to a point where it may be considered a viable alternative to established chemical battery technology.

The basic science involves using layers of graphene oxide that have been treated by lasers to create nanopores. These nanopores store electric ions at an energy density level 10x that of existing supercapacitors currently utilising activated carbon. Thus they represent a generational change in the structure of supercapacitors and they overcome previous limitations. Apart from the safety benefits when compared to lithium-ion batteries, the BEST™ Battery can be recharged in a fraction of the time and will potentially have a useful life of at least 10x that of lithium-ion batteries.

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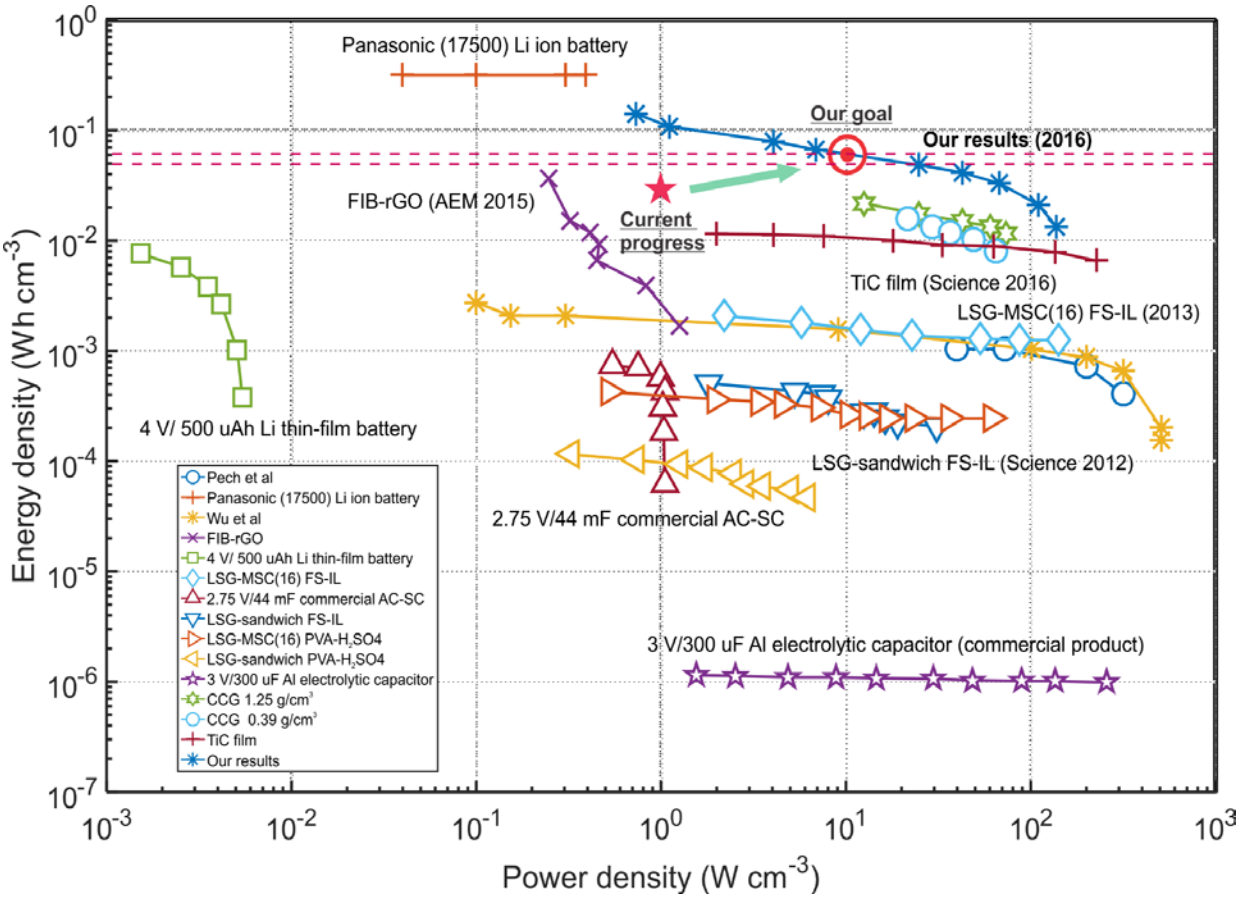
Update on Progress

Swinburne has advised the Company of good progress in the project, achieving the following steps;

- initially expanded the process circuitry from the use of single lasers to four lasers simultaneously, then
- further expanded the circuity design to enable use of 25 lasers simultaneously, thereby enhancing productivity in the development of an industrial scale process,
- developed vacuum deposition coating of metal as current collectors,
- improved mechanical strength by using ultrasonic welding,
- improved the current collectors of the pouch by vacuum sealing process and
- advanced the automation processes.

The latest Ragone plot demonstrates the project continues towards its ultimate goal in terms of energy and power density.[1]



[1] Energy density - If a system has a high energy density then it is able to store a lot of energy in a small amount of volume.
Power density - If a system has a high power density, then it can output large amounts of energy based on its volume.

Technology Readiness Levels

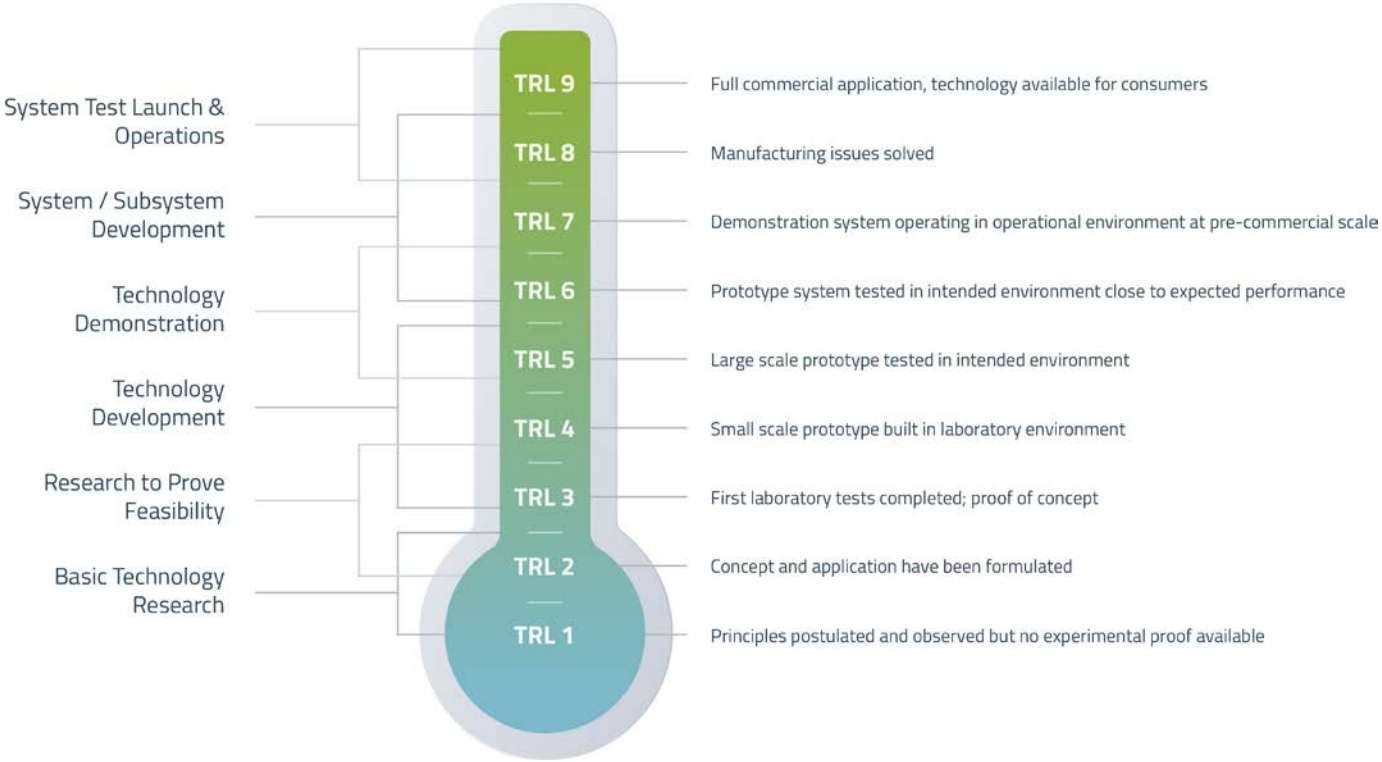
Technology readiness levels (TRL) are a method of estimating technology maturity of the critical technology elements of a program. TRL are based on a scale from 1 to 9 with 9 being the most mature technology. The use of TRLs enables consistent, uniform discussions of technical maturity across different types of technology.

This methodology is used by the Australian Department of Defence, NASA and the United Stated Department of Defence, as well as many business entities.

Among the advantages of TRLs:

- Provides a common understanding of technology status
- Risk management
- Used to make decisions concerning technology funding
- Used to make decisions concerning transition of technology

In the case of the BEST™ Battery project FGR and SUT have confirmed the TRL level at 4, with the next iterations of developments taking this to level 5.



Technology Readiness Levels

Managing Director, Craig McGuckin, stated: *"We are very pleased with the progress of the BEST™ Supercapacitor project. With a TRL of 4 this project is advanced and the next steps in SUT's development work will be exciting. All the Company's projects are going to be assessed on a TRL methodology going forward."*.

About First Graphene Ltd (ASX: FGR)

First Graphene has established a commercial graphene production facility for the bulk scale manufacture of graphene at competitive prices. The Company continues to develop graphene related intellectual property from which it intends to generate licence and royalty payments.

The Company has collaboration arrangements with four universities and is at the cutting edge of graphene and 2D related material developments. Most recently First Graphene has become a Tier 1 participant in the Graphene Engineering and Innovation Centre (GEIC) of the University of Manchester. First Graphene is working with numerous industry partners for the commercialisation of graphene and is building a sales book with these industry partners.

About Graphene

Graphene, the well-publicised and now famous two-dimensional carbon allotrope, is as versatile a material as any discovered on Earth. Its amazing properties as the lightest and strongest material, compared with its ability to conduct heat and electricity better than anything else, means it can be integrated into a huge number of applications. Initially this will mean graphene is used to help improve the performance and efficiency of current materials and substances, but in the future, it will also be developed in conjunction with other two-dimensional (2D) crystals to create some even more amazing compounds to suit an even wider range of applications.

One area of research which is being very highly studied is energy storage. Currently, scientists are working on enhancing the capabilities of lithium ion batteries (by incorporating graphene as an anode) to offer much higher storage capacities with much better longevity and charge rate. Also, graphene is being studied and developed to be used in the manufacture of supercapacitors which can be charged very quickly, yet also be able to store a large amount of electricity.

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