

# Graphene in Energy Storage Solutions



Graphene is one of the most conductive materials and it has been touted as a wonder material. With its superior electrical and thermal conductivity, there are many potential applications of graphene in the field of energy storage such as batteries and supercapacitors. 2DM has worked with companies to test the performance of graphene in different types of batteries.



## Some of the benefits of incorporating graphene into batteries are:



Higher volumetric and gravimetric energy density

Lower cost per kWh and longer lasting batteries



Higher cycle life



Higher coulombic efficiency



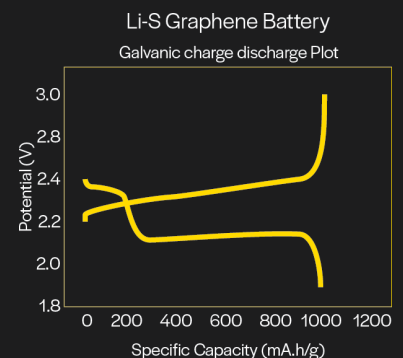
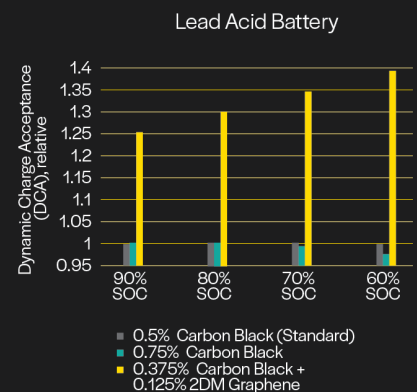
Reduced dependency on rare earth metals

Reduce/Replace Cobalt (Co) and Nickel (Ni)



Increased rate capability

Faster charging



## A study with 2DM's graphene in Lithium Sulphur (Li-S) battery yielded the following:



Stable cycle life >1000 cycles



Energy density >1500Wh/kg



Coulomb efficiency was approximately 100%



Cell cost per kWh <USD\$ 65



## Our Mission

2D Materials Pte Ltd (2DM) manufactures high performance graphene as an industrial additive to enhance the properties of many industrial materials such as paints & coatings, batteries, composites, polymers and lubricants. The company's mission is to expand the frontier of materials application through the use of high performance graphene.

Our core technology is a proprietary graphene production process developed at the Centre for Advanced 2D Materials at National University of Singapore, the first dedicated Centre towards graphene research in Asia, which was established under the leadership of Prof. Antonio Castro Neto and the scientific advice of Nobel Laureates in Physics for graphene – A.Geim and K. Novoselov.



<http://2dmsolutions.com/>

## Talk to us today



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