

# ProCharge+™

An Advanced Materials Solution

Formulated Graphene for Longer Lasting Battery

## Batteries to Last

ProCharge+™ as conductive formulation for Lithium-ion (Li-ion) battery electrodes



**Enhanced Thermal Dissipation** by 1.5 times better as Graphene has thermal conductivity of 4000W/(m.K) which is 10 times better than copper



**Extends Battery Life Cycle** by 50% of its current state which results to lower cost of battery replacement



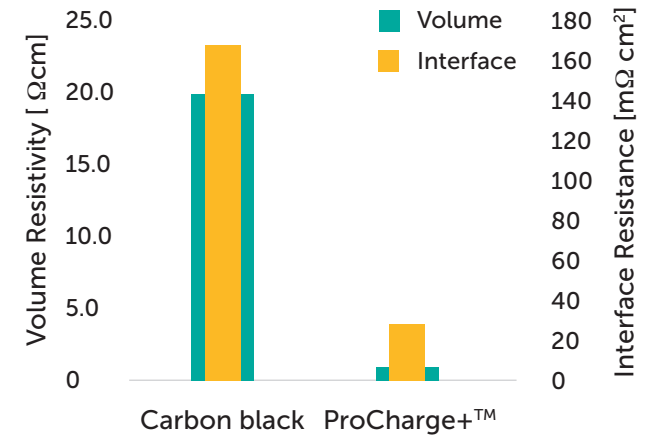
**Sustainable** reduced and cheaper waste management via extended design life by 1.5 times



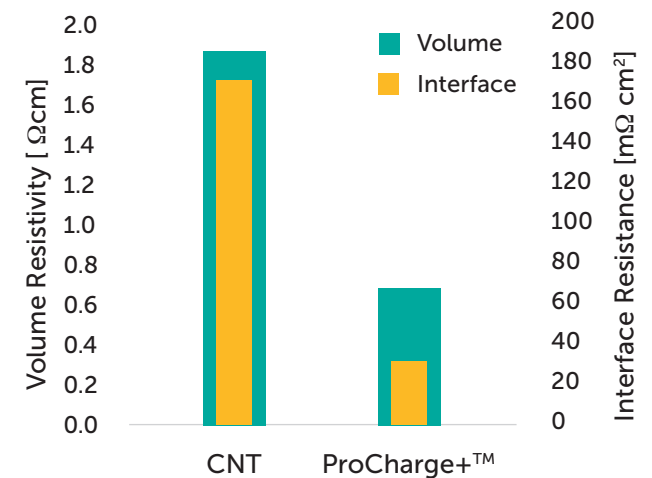
**Higher Energy Density** improves overall surface area of the battery electrodes by at least 50%

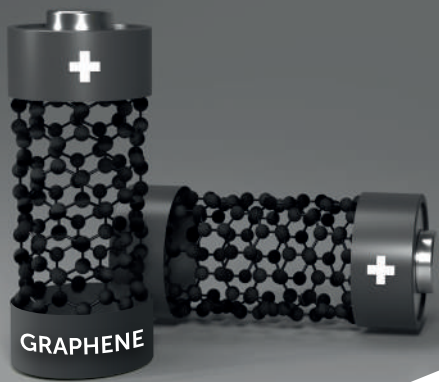


## About ProCharge+™



- Compared to traditional carbon black **ProCharge+™ formula reduces volume resistance >80%**
- Compared to Carbon Nanotubes (CNT), **ProCharge+™ formula reduces volume resistivity (up to 0.68  $\Omega\text{.cm}$ ) >63% and interface resistance (up to 31.8  $\text{m}\Omega\text{.cm}^2$ ) >81%**





Electric Vehicles (EV)



Target application for ProCharge+



Robotics Technology



Automated Guided Vehicle (AGV)

\*not limited to just these three applications

PETRONAS Technology Ventures Sdn Bhd (PTVSB) offers technological solutions in meeting business and market requirements that contribute to better business performance and operational excellence.




*PETRONAS' refinery plant based in Melaka, as one of our sources of petroleum coke.*



## Contact Us

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