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## Global Graphene Group Lithium Metal Battery Patents Hold Key to EV Future

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Global Graphene Group (G3) announces the issuance of 8 key patents for long range lithium metal battery technology. This suite of patented solutions is fundamental for EV OEMs to move forward with solid-state or lithium metal battery development, an energy dense battery that will give EVs an extended driving range on a single charge. This technology will enable widespread market adoption of EVs. The patents were approved between May and November of 2020.

There are the four components that make-up a lithium battery: the cathode, anode, separator and the electrolyte. G3's patented technologies provide not only the precise quantities and quality of ingredients, but also how we combine and prepare them, since not every lithium battery is the same. The make-up of the key raw materials, energy and power density, safety, service life, etc. – all of this has been thoroughly researched, tested and evaluated by our team of subject matter experts.

Specifically, these patents address the three most critical problems in lithium metal batteries:

- 1- Liquid electrolyte-lithium metal reactions
- 2- Lithium dendrite-induced internal shorting and formation of inactive lithium particles
- 3- Large solid electrolyte-electrode gap and high interfacial impedance

These problems can cause safety issues including fire hazards and reduced energy density, lowering the EV battery's performance and cycle life.

G3 has all the required technologies and expertise to overcome the technical barriers that have so far impeded the emergence of next-generation lithium metal batteries.

"Solid-state lithium metal batteries are the 'holy grail' for EV OEMs," said Dr. Bor Jang, G3 co-founder and CEO. "Current Li-metal batteries have issues with the anode. For instance, when

the battery discharges, a gap is created in the anode that downgrades the battery's performance. G3's patented elastic polymer-based anode technology creates a protective layer that eliminates this problem. Our patented technology is the leader in anode protective layers for solid state Li-metal batteries."

"EV OEMs are focused on moving to solid-state Li-metal batteries for the future expansion of the EV market," said Adam Quirk, G3 VP of Business Development. "Solid-state batteries have a higher energy density, meaning people can drive further on a single charge. But the EV OEMs will need to leverage G3's lithium metal protection patents to develop safe and high performing solid-state batteries."

"We're excited about this technology and working with companies to partner with us to bring this new technology to life for solid-state batteries," said Quirk.

G3 plans to host a webinar on December 9 to discuss their lithium metal anode protection patents. Registration for the free webinar is available now at [here](#).

Read the [original article](#) on Global Graphene Group.