MONOATOM LABS

Graphene Innovation Experts

World's only Trillion Dollar Nanomaterial
Leading 4th Industrial Revolution

ABOUT US

Monoatom Labs, founded by 6-time President of India Awardee Sushanth Patnaik and business leader Aayush Bansal, bridges breakthrough graphene research with large-scale industrial deployment. Supported by scientists from IISc, IIT, and NCL, we turn lab-scale innovations into commercially viable, high-performance material solutions.
We push boundaries, redefine performance standards, and build graphene-based technologies that advance industries including aerospace, defence, clean energy, solar, construction, tyres, chemicals, filtration, performance textiles, and engineered polymers.

OUR UNIQUE APPROACH

At Monoatom Labs, we have developed a graphene production process combining innovation and sustainability. Unlike conventional methods that are expensive and waste-heavy, our approach delivers 99.9% pure, few-layer graphene at 1/10th the industry cost, while keeping emissions and resource use to a minimum.

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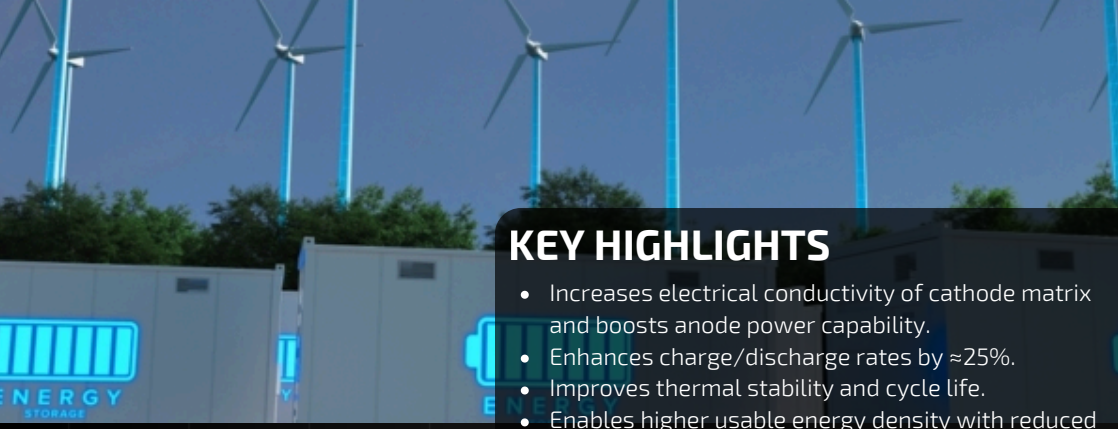

KEY HIGHLIGHTS

- Increases electrical conductivity of cathode matrix and boosts anode power capability.
- Enhances charge/discharge rates by ≈25%.
- Improves thermal stability and cycle life.
- Enables higher usable energy density with reduced internal losses.

GRAPHENODE

BATTERY ENERGY STORAGE SYSTEMS

Graphene-enhanced $LiFePO_4$ (LFP) cells for stationary storage, EV/2W/3W and high-cycle industrial batteries.

COST-BENEFIT ANALYSIS

- Graphene Mix: ~10% of active material blend (as conductive additive)
- Base Product: 1 kg LFP active material
- Cost Increase: ≈5%
- Efficiency Gain: 15–25% higher energy output and power performance

COMPETITIVE MATRIX

Feature / Player	Your Graphene LFP Cells	Nanotech Energy – Graphene Non-Flammable Batteries	Other Graphene Battery Developers
Chemistry	LFP + graphene conductive network	Graphene-enhanced Li-ion with non-flammable electrolyte and thermally stable separator nanotechenergy+1	10% GNP HDPE masterbatch for packaging sustainability
Key Benefits	Higher C-rate and improved cycle life on a proven LFP platform; suitable for grid and EV duty cycles	Non-flammable, wide operating temperature range, abuse tolerance (nail, bullet, crush), EV and stationary storage oriented azonano+2	Packaging & caps, global branded masterbatch
Differentiation	India grid/EV-focused, robust and cost-optimised using LFP + graphene architectureIndia grid/EV-focused, robust and cost-optimised using LFP + graphene architecture	Safety-first positioning with fireproof electrolyte, US manufacturing and premium performance branding nanotechenergy+2	Publicly listed, strong ESG & packaging positioning