



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

- Improves tensile and flexural strength by 25–30%.
- Reduces crack propagation; better slow-crack growth resistance.
- Provides anti-static / semi-conductive surface where needed.
- Extends service life of HDPE products by >20% in demanding environments.

HD-G-PE

SEA WATER TO POTABLE WATER

Used in HDPE pipes, films, packaging, tanks and geomembranes to enhance mechanical strength, UV resistance and anti-static performance.

COST-BENEFIT ANALYSIS

- Graphene Mix: ~0.45% in final HDPE
- Base Product: 100 kg HDPE
- Cost Increase: ~8%
- Efficiency Gain: 20–30% strength & durability improvement

COMPETITIVE MATRIX

Feature / Player	Your Graphene Solar Coating	Graphenemex® MB-HDPE/GO	Black Swan Graphene – GEM S27M	GrapheneUP MASTERGUP® PE
Graphene Loading	~0.45% in final product	5% GO in HDPE masterbatch for tensile, fatigue, impact enhancement	10% GNP HDPE masterbatch for packaging sustainability	0.5 wt% graphene in PE masterbatch for superior properties at low dosage
Focus	Pipes, films, infra-grade HDPE with UV & anti-static functions	Industrial HDPE parts and films	Packaging & caps, global branded masterbatch	Broad thermoplastics range
Differentiation	Optimised for Indian standards & infra-applications, TCO-driven	Strong materials data, LatAm focus	Publicly listed, strong ESG & packaging positioning	Ultra-low dosage and broad polymer compatibility