

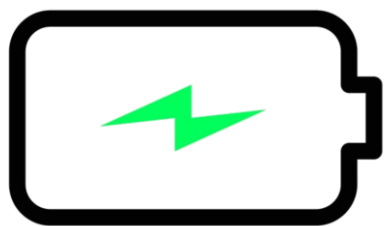
The background is a teal gradient. On the left, there are two hexagonal patterns: one with thin white lines and dots at the vertices, and another with solid blue hexagons. On the right, there is a close-up image of green leaves.

# 10<sup>-9</sup> LOG 9 MATERIALS

— *nannovating the world* —

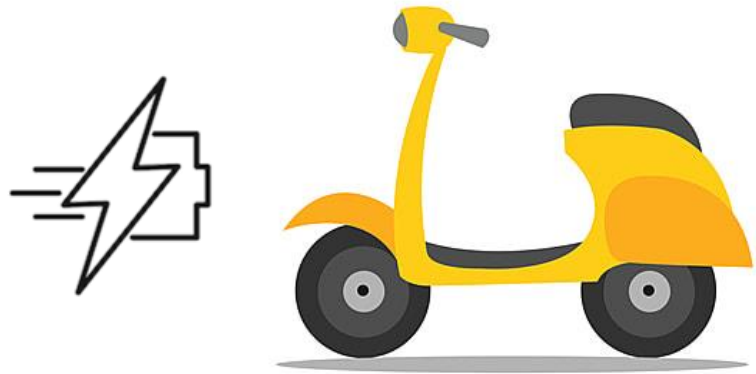
# Introduction

- Incubated at the “TIDES Incubation Centre” of **IIT Roorkee** from 2015-2017
- Has emerged as **India’s leading nano technology company** with established cutting edge expertise in the wonder material i.e. “**Graphene**”
- Focused on building (i) **alternative energy storage solutions for advanced EVs** and (ii) **electrification of commercial vehicles ranging for 2Ws, 3Ws to LCVs and HCVs**
- 3 key technologies: “**Fast Charging Electric Vehicles**”, “**Graphene Based Supercapacitors**” and “**Aluminium Fuel Cells** (for Long Haul LCVs and HCVs including buses)”
- Raised **US\$ 1 million between 2017-2019** from Metaform Ventures, Hemant Luthra (Chairman, Mahindra CIE Limited), Delhi based Micro VC Firm - GEMS Partners and other leading angel investors in India. Log9 has raised **US\$ 4 million Series A Investment** from **Sequoia Surge & Exfinity Venture Partners** in September 2019.
- Log9 recently raised **US\$ 8.5 million Investment in an Series A+** round led by **Amara Raja Batteries**. Other Investors in this round include AC ventures ( Indonesia ), Sequoia Surge , Exfinity Venture Partners.
- Log9 is deeply honoured to have **strategic angels** on board as a part of its Series A+ round - Rajesh Yabaji and Chanakya Hridaya, Co-Founders of logistics industry Unicorn Blackbuck; Rajesh Ramaiah, Partner, Premji Invest; Desikan Sundarajan, MD, Equinor and Faiz Mayalakkara, Director Investments, Emirates Investment Authority.



*High Power Density Energy Storage for  
Rapid Charging of Electric Vehicles*

# Solving challenges of traditional Li-Ion batteries for mass adoption of EVs across automotive platforms



## Rapid Charging Battery Packs

- For Intra City Commercial Fleets
- 10x Life
- <15 minutes full charge



## Aluminum Fuel Cells

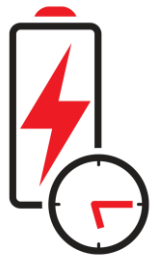
- For Inter City Commercial Fleets
- 10x Range/Battery Weight
- Refuellable in few minutes



*Battery capacity limits faster charging of Electric vehicles*

# **‘Fast Charging isn’t Fast Enough’**

Other Challenges include:



*Low Cycle Life →  
Frequent Battery Changes*



*Low Acceleration  
due to lower C-rates*



*Faster degradation  
with rugged use and  
severe temperatures*

# Key Battery Characteristics

**Production Ready**

Hybrid Supercapacitor based High Power Density Battery Pack



- Peak C-rate: 10 C
- Max. Continuous C-rate: 5-6 C
- Operating temperature: -30 to 65 °C
- Cycle Life: >15000 cycles

# Key Customers and Partners

VOGO



**DELHIVERY**  
Small World

amazon

Flipkart



**PORTER**  
— good for goods —



 **ZYPP**

eBikeGo!



 **fortum**



**VOLTIC**



# Offering **Battery As A Service** for Last Mile Delivery Vehicles

## ➤ Business Plan

- Partnership with Auto OEM
- Battery packs made available on a monthly/ Yearly lease for end customers
- Joint Business development for sale of Vehicles





# Log 9 Rapid Electric 3W

Parameter	Details
Top Speed	50 kmph
Charging Time	40 min
Range (Payload 500 Kg)	65 - 75 km
Range (w/o Payload)	85 - 95 km
Motor (Rated Power)	6 kW
Vehicle Category	L5N Cargo
Loading Dimensions (cubic mm)	1730*1475*260
Vehicle Dimensions	3200*1475*1710

**Note:**

*Log9 Materials have deployed their battery solution on Rage + platform by Omega Seiki*

*More Details available at - <https://osmobility.in/vehicles/rage-plus/>*

*Range Data as per internal testing / Vehicle is currently undergoing testing at ICAT ( as of Aug 2021 )*



# Founders & Advisors



**Akshay Singhal**  
Founder & CEO

B.Tech. & Ph.D. IIT Roorkee  
7+ yrs exp. In Nanotech R&D



**Kartik Hajela**  
Co-Founder & COO

B.Tech. IIT Roorkee, ex - ITC  
Previously co-founded 3 startups



**Pankaj Sharma**  
Co-Founder & CIO

Scientist IIT Delhi, Built  
Supercomputers  
16+ yrs exp. in deep tech ventures

**Prof. Ashok Misra**  
Technical Advisor

Distinguished Professor, IISc  
Ex – Director, IIT Bombay



**Prof. VK Saraswat**  
Energy Systems Advisor

Member, Niti Aayog  
Ex. Director General, DRDO



**Girish Paranjpe**  
Fuel Cell Advisor

Ex – Managing Director  
Bloom Energy





# Team Log9



# Graphene Nanotechnology Company

**25**

**Patents Filed**

**10**

**PCT Applications**

**1**

**Granted**

## Existing Commercial Successes of the Company

5x more efficient oil and chemical spill absorbent materials made of Graphene



**SORBENE**

*Nano Cleanup for Mega Spills!*

Pioneered UV Disinfection products in India for protection against COVID-19



**CoronaOven**<sup>TM</sup>

Virus 0 | Humanity 1

- Proof of Log 9's quick innovation capabilities, Idea to Market in 15 days, helping fight COVID-19



# A Cutting Edge Cleantech Startup

## Established Graphene, Nano Technology & Advanced Materials Expertise

Highly Experienced Team Of Experts With A Vast Network Of Relationships

## Strong Management Team & Advisory Board

Expertise Across Several Domains

## In-house Technology & Application Development

Efficient Resource Management

## Focus on Usability, Cost Structures & Quality

Cost Effective Offerings With Superior Quality

## Reduced Go To Market Timeframe

Stationary Power Back-up & Electric Mobility Solutions With Huge Global Market Demand. Will Generate Valuation Upside As Well As ROI For Investors



**Thank You**

