AI-POWERED EV BATTERY FIRE PREVENTION SYSTEM

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PRE-STARTUP OVERVIEW

Industry: Electric Vehicles, AI-Driven Battery Safety
Pre-Startup Phase: Developing AI-Powered EV Battery Safety Solutions
Certification Program: Electric Vehicle Engineering & Development, CODE, IIT Madras

VISION STATEMENT

"To revolutionise EV battery safety with AI-powered predictive technology, ensuring a fire-free, secure, and sustainable electric mobility future."

MISSION STATEMENT

"We are building AI-driven early warning systems that predict and prevent EV battery thermal runaway, ensuring a fire-free and secure electric mobility future. Our solution reduces risks, enhances battery longevity, and provides real-time safety insights for fleet operators, service centers, and manufacturers—creating a scalable, high-impact business model in the growing EV industry."

CORE VALUES

- **Innovation** – Driving cutting-edge AI solutions for EV safety.
- **Quality** – Delivering accurate, reliable, and high-performance safety insights.
- **Safety & Security** – Preventing failures before they happen.
- **Customer-Centricity** – Solving real-world EV battery safety challenges.
- **Sustainability** – Extending battery lifespan & reducing environmental impact.

THE PROBLEM

- Rising EV Battery Fires: Thermal runaway incidents in EV batteries have increased by 300% in India (2023-24).
- Lack of Real-Time Monitoring: No existing AI-powered early warning system to predict failures before they occur.
- Fleet & Service Center Losses: Costly unexpected breakdowns, safety hazards, and regulatory pressures.

THE SOLUTION

AI-Powered Thermal Runaway Early Warning System (TREWS)

- Real-time battery monitoring using AI & predictive analytics.
- Smart alerts for early failure detection via SMS, WhatsApp, and dashboard notifications.
- Seamless integration with fleet management & service centers to optimise maintenance.
- AI-driven battery health reports for proactive risk management.

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MARKET OPPORTUNITY

- $2B+ TAM in EV battery analytics & predictive safety by 2027.
- 4M+ EVs in India by 2025, with a 49% CAGR growth in EV two-wheelers.
- Regulatory push for battery safety standards (AIS-156) driving demand for our solution.

TARGET CUSTOMERS & BUSINESS MODEL

Primary Customers:

- EV Battery Service Centers (early adopters & pilot testing partners)
- Fleet Operators (Swiggy, Zomato, Bounce, Yulu, Amazon, Dunzo)
- Battery Swapping Networks (Sun Mobility, Battery Smart, Gogoro)
- OEMs & Manufacturers (Ola Electric, Ather, TVS, Hero Electric)

Revenue Model:

- Service Center Subscription: ₹2,999 - ₹9,999 per month
- API Licensing for OEMs & Battery Swapping Companies
- Freemium Model for Individual EV Owners (via Service Centers)

COMPETITIVE ADVANTAGE

Competitor	Solution	Weakness
Ola Electric	Internal battery monitoring	No AI-based thermal runaway prediction
Ather Energy	BMS safety system	No external predictive analytics
ION Energy	AI analytics for OEMs	Not available for individual EV owners
Log9 Materials	Battery R&D & safety focus	No real-time user alerts
EV Doctor	AI-powered battery diagnostics & monitoring	Primarily targets service centres; limited end-user focus
Our Solution	AI-powered **real-time battery fire prevention system**	**First with proactive early warning & smart alert system**

Key Differentiators: Predictive AI | Smart Alerts | Cybersecurity | Scalable SaaS.

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ROADMAP & EXECUTION PLAN

Short-Term (0-1 Year):

- Secure partnerships with 3+ battery service centers in Bangalore.
- Deploy AI-based predictive analytics for EV battery inspections.
- Refine AI model accuracy using real-world fleet data.

Medium-Term (1-3 Years):

- Scale to 50+ service centers across India.
- Expand to battery swapping companies & fleet operators.
- Integrate with OEMs for factory-level safety compliance.

Long-Term (3-5 Years):

- Become India's #1 AI-driven EV battery safety platform.
- Expand to 4-wheelers, public transport, and industrial EVs.
- Set new industry standards for AI-powered EV battery diagnostics.

KEY METRICS FOR SUCCESS

- Short-Term: 3+ pilot service centers onboarded, AI model validated.
- Medium-Term: 50+ service centers & OEM partnerships.
- Long-Term: Prevent 1000+ potential EV battery failures & fires annually.

INVESTMENT & FUNDING NEEDS

- AI model development & real-world data testing.
- Web platform & API integrations.
- Pilot programs with fleet operators & service centers.
- Cybersecurity & cloud infrastructure scaling.

Potential Investors & Grants:

- Micelio Fund, Blume Ventures, Indian Angel Network.
- Government Grants: FAME India, Startup India, NITI Aayog.
- Corporate Collaborations: EV battery makers, fleet operators, OEMs.

Goal : Secure first funding → Build MVP → Achieve Product-Market Fit → Scale Nationwide.

🚀 **Join Us in Creating a Fire-Free EV Future**

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