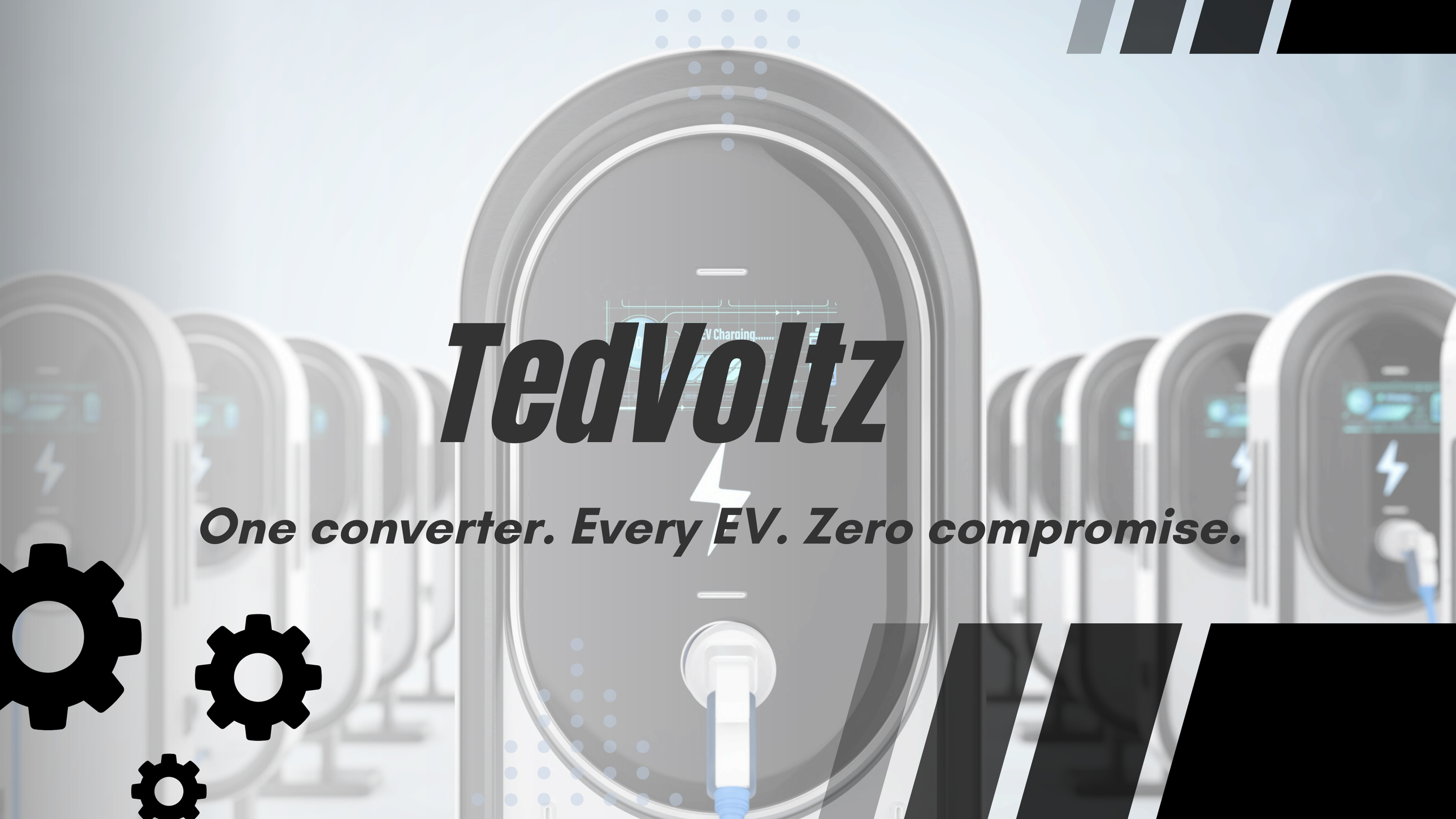


TedVoltz

One converter. Every EV. Zero compromise.

The Problem

Electric vehicles operate on distinct 800 or 400 voltage systems which require specific converters, leading to unique design need

+

Present converters are:

- Unidirectional
- 80-90% efficient.
- Can’t reverse power from 12V to traction battery (no emergency range).

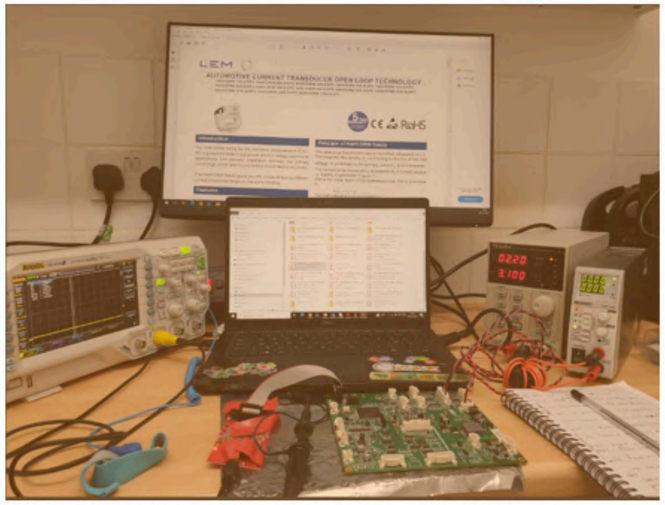
=

This setup forces OEMs and Tier 1 suppliers to maintain two SKUs, two supply chains → increases cost, complexity and failure risk

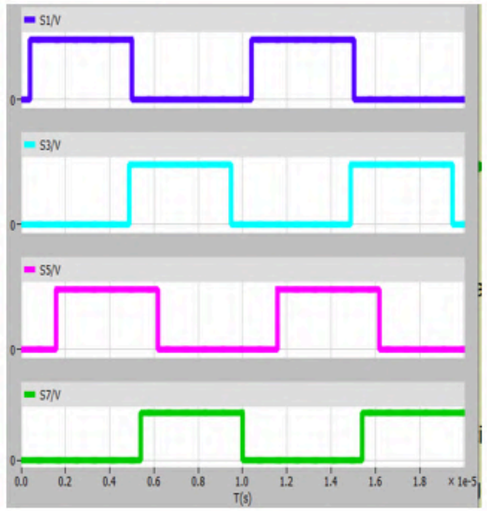
Our Solution (Product)

A universal DC-DC converter compatible with all EVs:

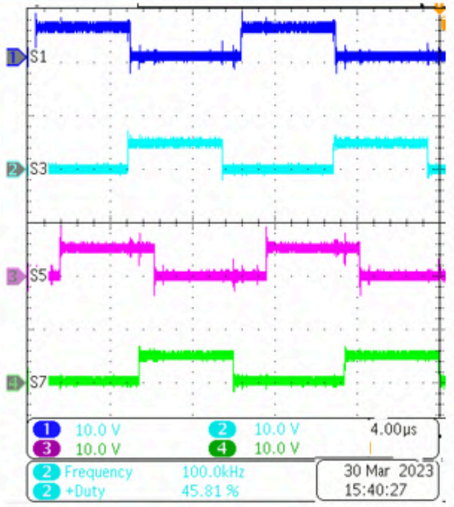
- **200–900V input**
- **12–800V bidirectional output**
- **96%+ system efficiency**



Experimental set up for the novel dynamic phase angle generation



Simulation result in PLECS



Experimental validation

- **Built-in reverse mode allows backup boost from 12V battery.**
- **One unit replaces two—simplifies integration, inventory, and BOM**

Competitive Advantages

Our competitors include BorgWarner, Infineon, and Vicor. Compared to our main competitor, BorgWarner's Gen5, our converter delivers:

✓ 5.3% wider input voltage range ✓ 30.6% wider output voltage range ✓ 73% more power ✓ 4% higher efficiency ✓ 15% smaller volum

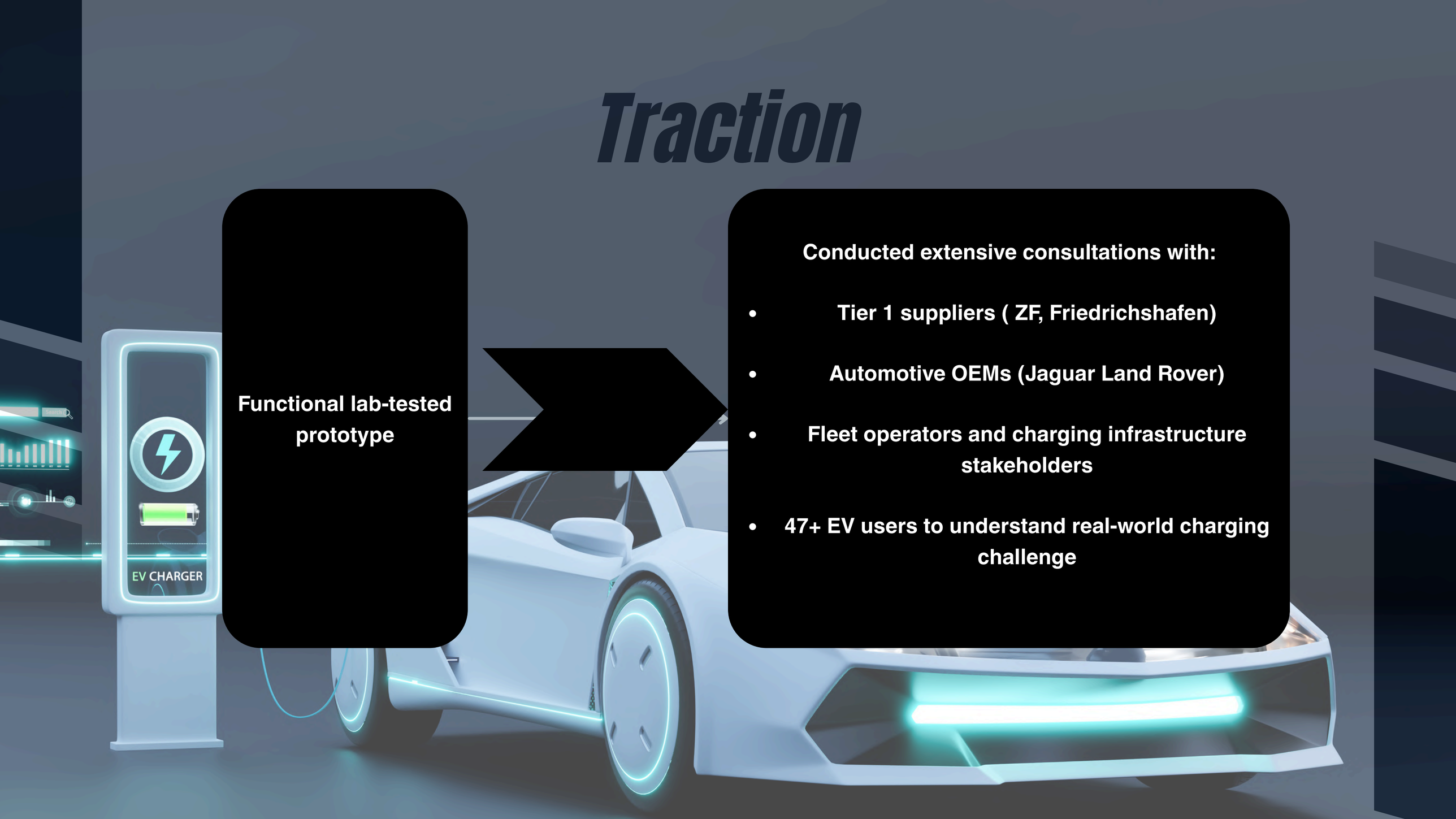
Our converter's bidirectionality, absent in BorgWarner's Gen5, drives our scalability by enabling vehicle-to-grid power flow, stabilizing grids, and adding 5 km of emergency EV range.

Traction

Functional lab-tested prototype

Conducted extensive consultations with:

- Tier 1 suppliers (ZF, Friedrichshafen)
- Automotive OEMs (Jaguar Land Rover)
- Fleet operators and charging infrastructure stakeholders
- 47+ EV users to understand real-world charging challenge



Business Model

Projected unit cost of ~$187, selling at ~$287, targeting ~35% net profit margin.

We could make 107 million dollars/year in gross revenue, based on IEA data trends, which indicate that at least 2.5 million EVs are sold yearly. We aim to capture at least 15% of this market.

B2B direct sales to EV OEMs, Tier 1 suppliers, plus income from industry training/telemetry/integrations.

Why Now? Market Validation

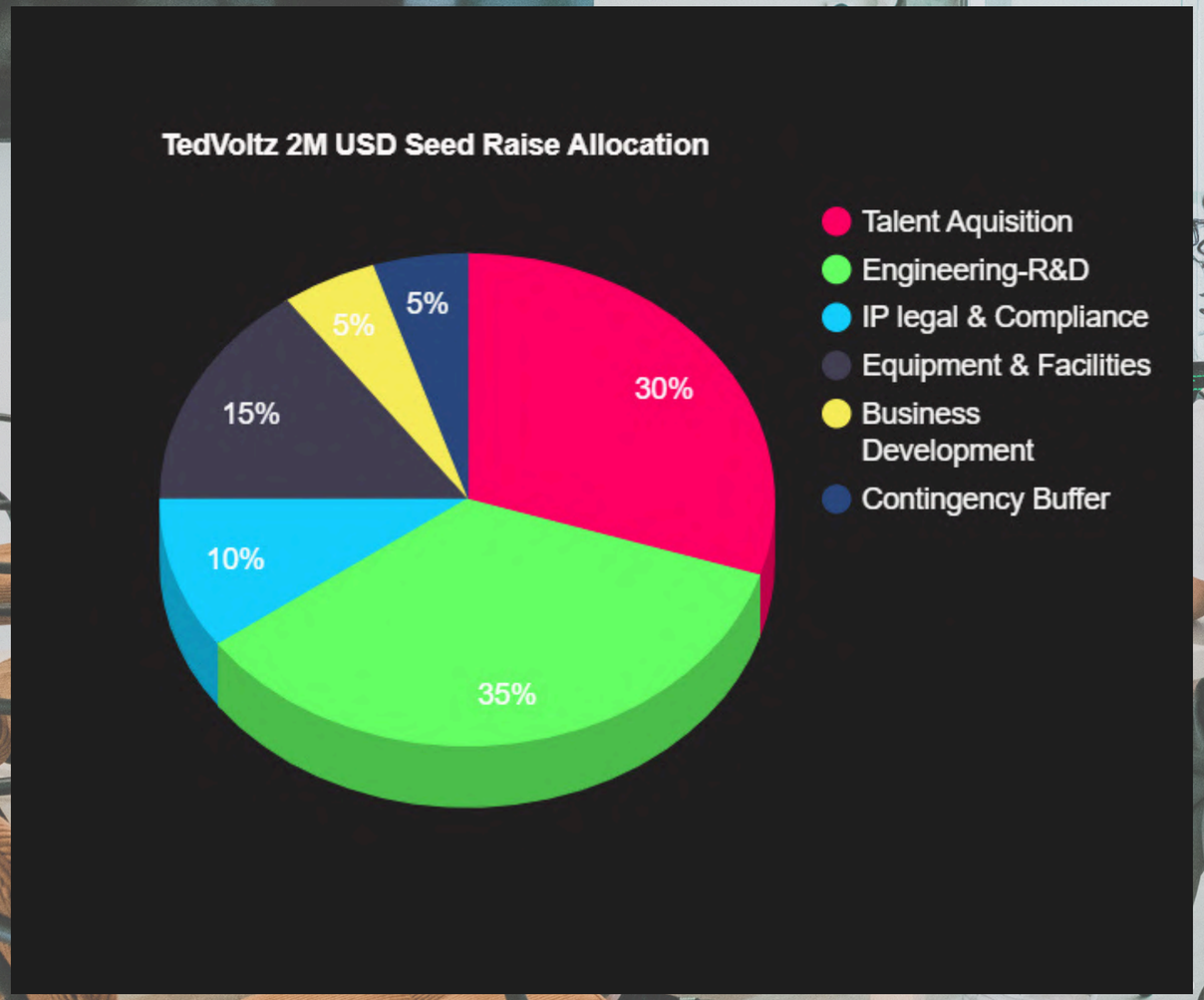
- Global EV market projected to exceed $800B by 2027, over 60million EVs/year by 20230 (Statista)
- Increasing demand for flexible, high-efficiency DC-DC converters(Mckinsey)
- OEMs and Tier oness seek flexible, next-gen components to meet cross-platform needs and are investing in power electronics to improve efficiency & range (IEA)

Our 4.5kW universal, bidirectional converter is directly aligned with these needs

Positioned as a drop-in solution for OEMs transitioning to multi-voltage EV platforms

Fundraising

Amount: $2M USD Stage: Seed Structure: SAFE (preferred) or Convertible Note



With $2M and 12-18 months of runway, we will deliver:

- **Fully validated, automotive-grade Gen-2 prototype.**
- **Pilot-tested hardware with Tier 1/OEM partners.**
- **Pre-cert-ready design + compliance roadmap.**
- **Defensible IP portfolio & investor-ready data room**

Meet The Team

Olutayo Omotoso (CTO)

- Tayo holds a PhD in Power Electronics with deep expertise in EV powertrain and charging systems.
- Leads technology strategy and product development at Tedvoltz, driving innovation from concept to market through strong technical leadership and industry collaboration.

Ogwuche Destiny (CEO)

- Doctoral candidate in Business Administration with a background in Mechatronics Engineering.
- Co-founded and scaled Tellit and successfully led Meyana Energy from prototype to commercialization, raising over $150k in funding.
- Brings 10+ years of experience (semiconductor and cleantech). Now driving Tedvoltz's strategy, growth, and vision


THANK YOU