WRI INDIA
ROSS CENTER

ELECTRIC MOBILITY FORUM

Cell Propulsion

Electrification of Public Transport:
OEM Perspective on e-Mobility

About Us

- Mobility technology company developing powertrain components, integrated electric powertrains, and telematics modules.
- Accelerating the transition of Commercial Vehicles to electric.
- Indigenous High Voltage and Low Voltage Drivetrains
- Turn-key fully managed solutions for commercial vehicle owners.

The Core Team

Nakul Kukar

Co-founder & CEO;
7 years experience with rocket engine and electric aircraft design & development;

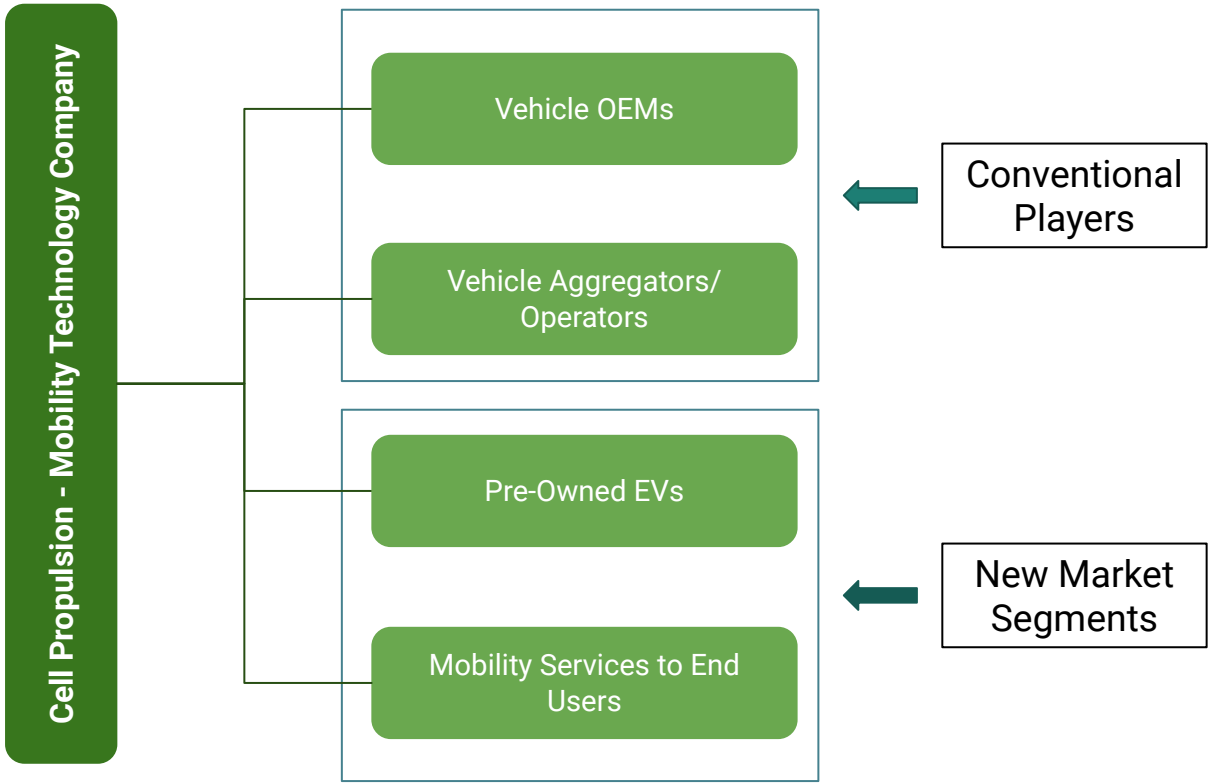
Paras Kaushal

Co-founder & COO;
6 years experience with rocket engine ignition systems, Spacecraft Thermal & energy storage systems

Supratim Naskar

CTO;
7 years experience with Launch Vehicle Structures, Spacecraft Mechanisms & Space Robotics

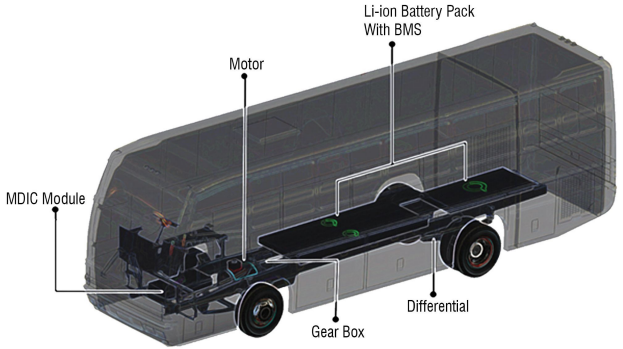
Market Positioning

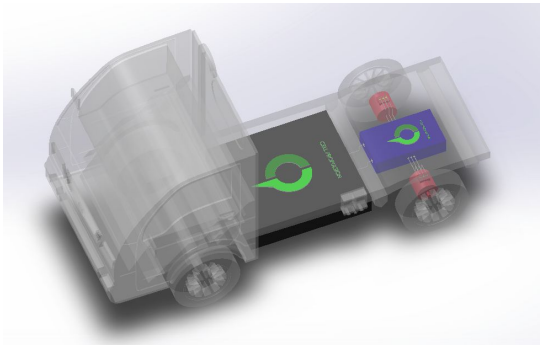


Our Solution

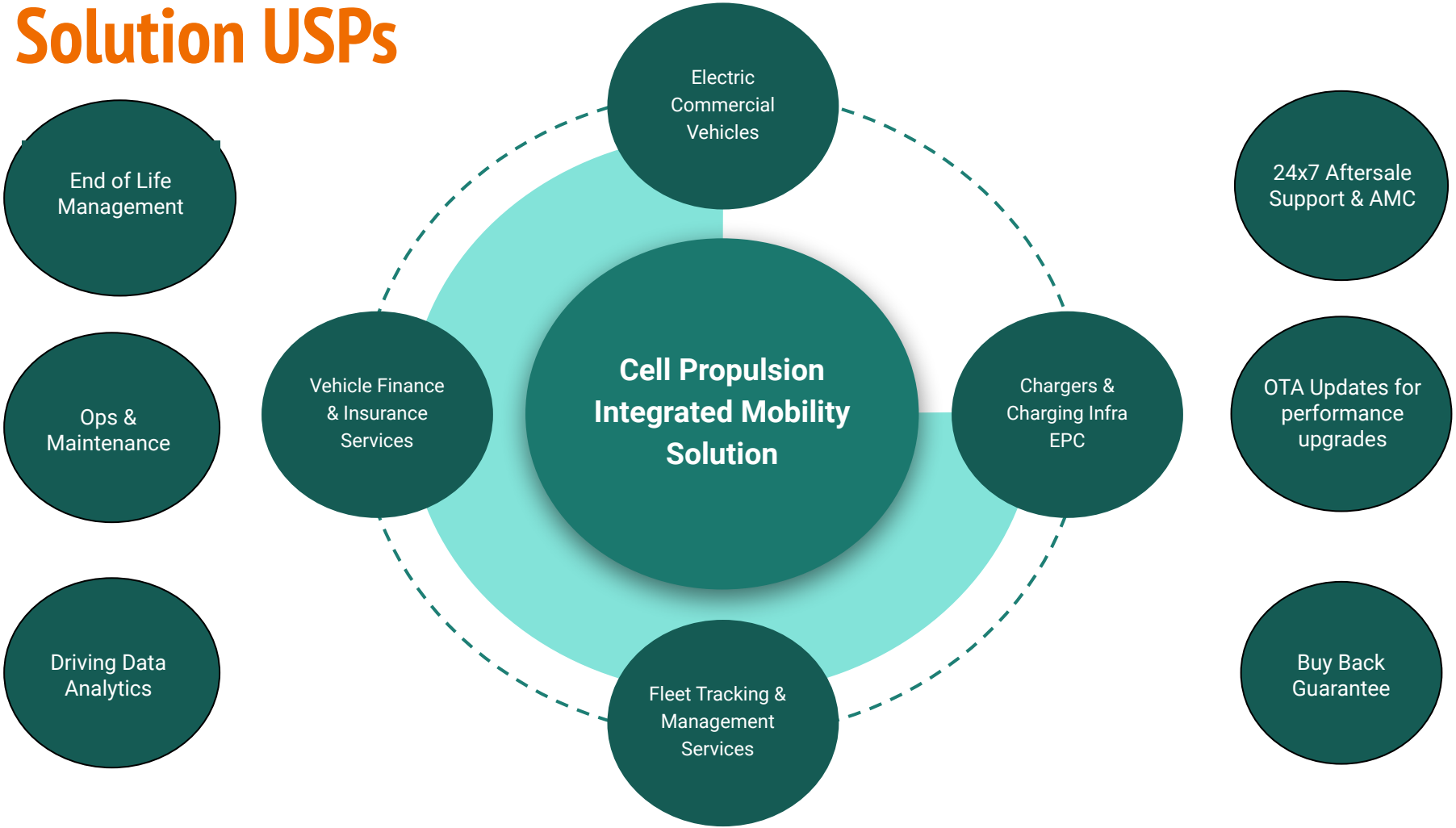
Cell Propulsion is developing integrated powertrains for commercial electric vehicles

e-Bus (12m, 16ton) Powertrain Specifications	
Nominal Power	150 kW (750Nm @1900rpm)
Peak Power	200 kW
Operating Voltage	500V - 600V
Battery Capacity and Range	125kW-hr for 150km 200kW-hr for 200km 250kW-hr for 250km
Battery Cycle Life	5000 at 0.8C max Charge and 1C max Discharge
Top Speed	80 km/hr





Solution USPs



Potential & challenges in retrofitting of Buses

- Number of buses on Indian roads to increase from current 1.5million to 3million by 2030.
- Over next 3-4 decades, all of these have to be replaced/ upgraded to electric.
- Only a mix of new eBuses supplemented by retrofitted Buses can meet this demand.
- Local production/supply chain of cells, advanced electric motors, and cost are the major challenges for large scale conversion of Buses to electric.
- In long term, major technological improvements are also required to enable electrification of long distance inter-city buses.

Thank You

Technology Advantage

1st to Market

One of the few Indian companies developing:

- EV grade high voltage (600V) electric motor
- EV grade high voltage (600V) motor drive technology
- Modular and general purpose BMS capable of handling LTO, LFP, NMC Chemistries as well as Supercapcitors
- Modular battery packs to achieve voltages as high as 800V.

Hardware Technologies

In-house developed technologies, with proprietary IP, for:

- Electric Motors
- Li-ion Battery Packs
- Motor Drives
- Inverters
- BMS
- Chargers

Custom EV components at required voltages, power ratings, and price.

Tech Enabled USPs

Lower Cost with high performance:

- BLDC Motor with no permanent magnets.
- No rotor cooling required for the motor.
- Tunable regen braking Performance.
- Passive thermo-structural design of battery packs

Vertical integration leading to very low supply side risk.