



ENERVIBE
Energy Harvesting Solutions

Movement Energy Data

Wireless sensors powered
by energy harvesters



Our vision:
To empower the connected
world of billions of moving IOT
devices & wireless sensors with
self-powered perpetual zero
emission energy source



The problem we are solving



The need – Connectivity of IoT data from moving devices

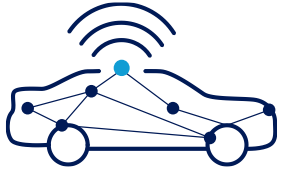


The challenge – **impossible/expensive** wiring installation, and/or **limited** battery's power for moving/vibrating/rotating IoT's.



The solution – **Making the impossible possible** via self powered sensor driven by kinetic energy harvester that provides unlimited green power for lifetime

Huge Market Opportunity - 800,000,000 Units



Automotive | 320 M Units

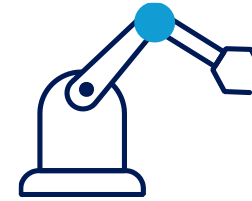
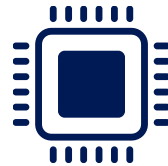
- Digital tires
- Air Suspensions
- Chassis Sensors
- EV's batteries temp/BMS
- EV's electrical motors health



Defense | 100 M Units

- Remote locations
- Monitoring moving objects
- Connected battlefield
- Smart security fences

Energy & Data Harvester



Industry 4.0 | 130 M Units

- Wireless sensors
- Rotating machines
- Remote locations
- Frequency monitoring



Wearables | 250 M Units

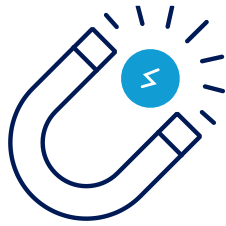
- Smart Watch
- Smart shoes
- VR/AR Glasses
- Earbuds
- Mountain bikes

Technology

Core Technology - Unmatched Kinetic Energy Harvesters

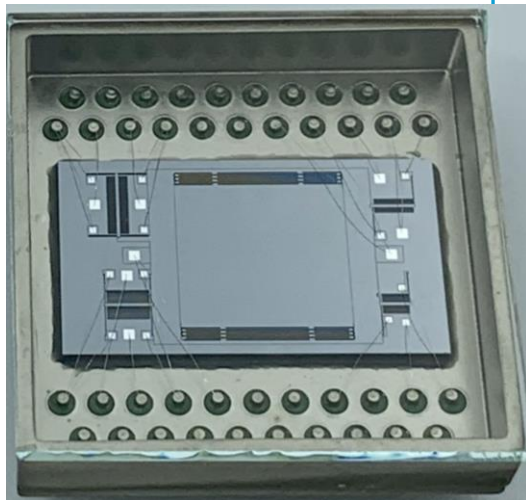


Innovative kinetic energy harvesters, 2 novel configurations, 6 patents in process, 6 Granted



Electromagnetic Harvesters (EM)

- High power density
- High durability
- Cost effective



Electrostatic (MEMS) Harvesters

- Continuously tuned to harvested device
- Optimal harvesting at each frequency
- Highly resistant silicon chip



Enertire™

A Smart Tire Sensing Platform for commercial fleets
the first commercial application

The race for the ultimate Smart Tire for commercial fleets

Level
1

Tire ID, pressure and temperature

Tire properties, fit to task , safety

Level
2

Tire health and condition

Essential data for predictive maintenance and car safety

Level
3

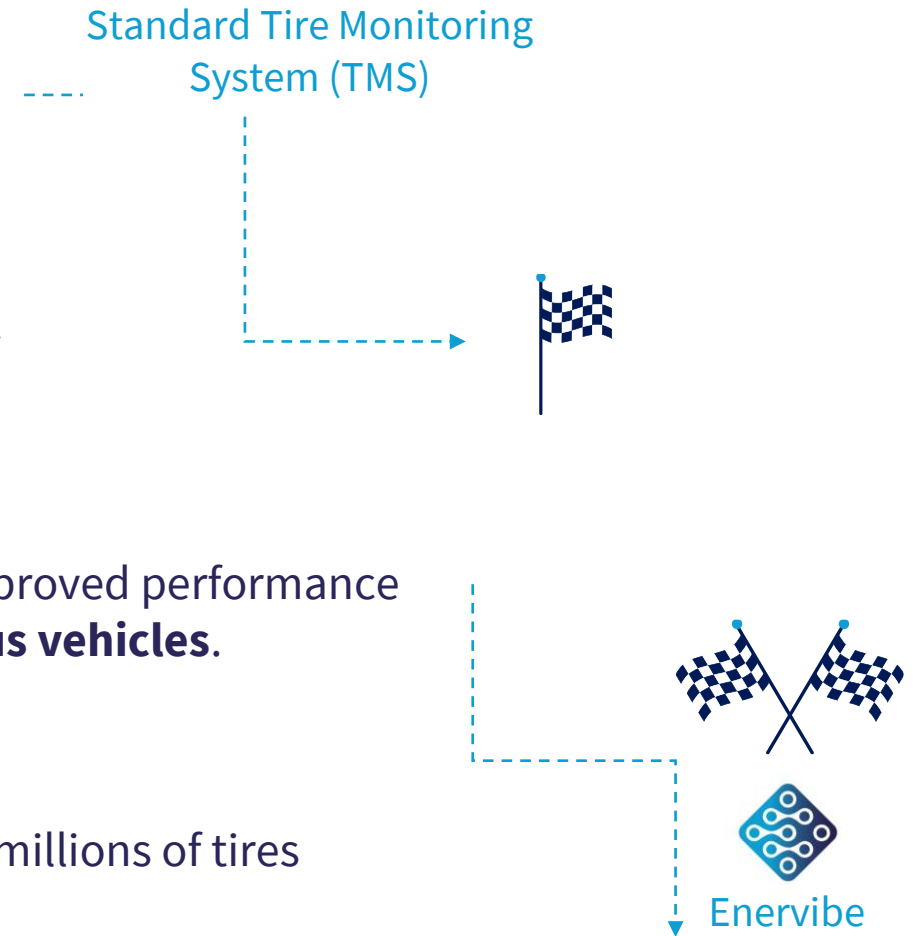
Tire weight & road Real-Time status

Real time data transmitted to the ECU and ADAS for improved performance and safety **for today's vehicles/fleets and Autonomous vehicles.**

Level
4

Tire data analytics

Insights and predictions based on data analytics from millions of tires



Enertire™ - Powerful Energy Harvester & Tire Sensing platform for commercial fleets

New data type



Pressure



Temp.



High sampling & transmission data rate



Wear



Weight



Road condition



Solution Structure

Fleet Management

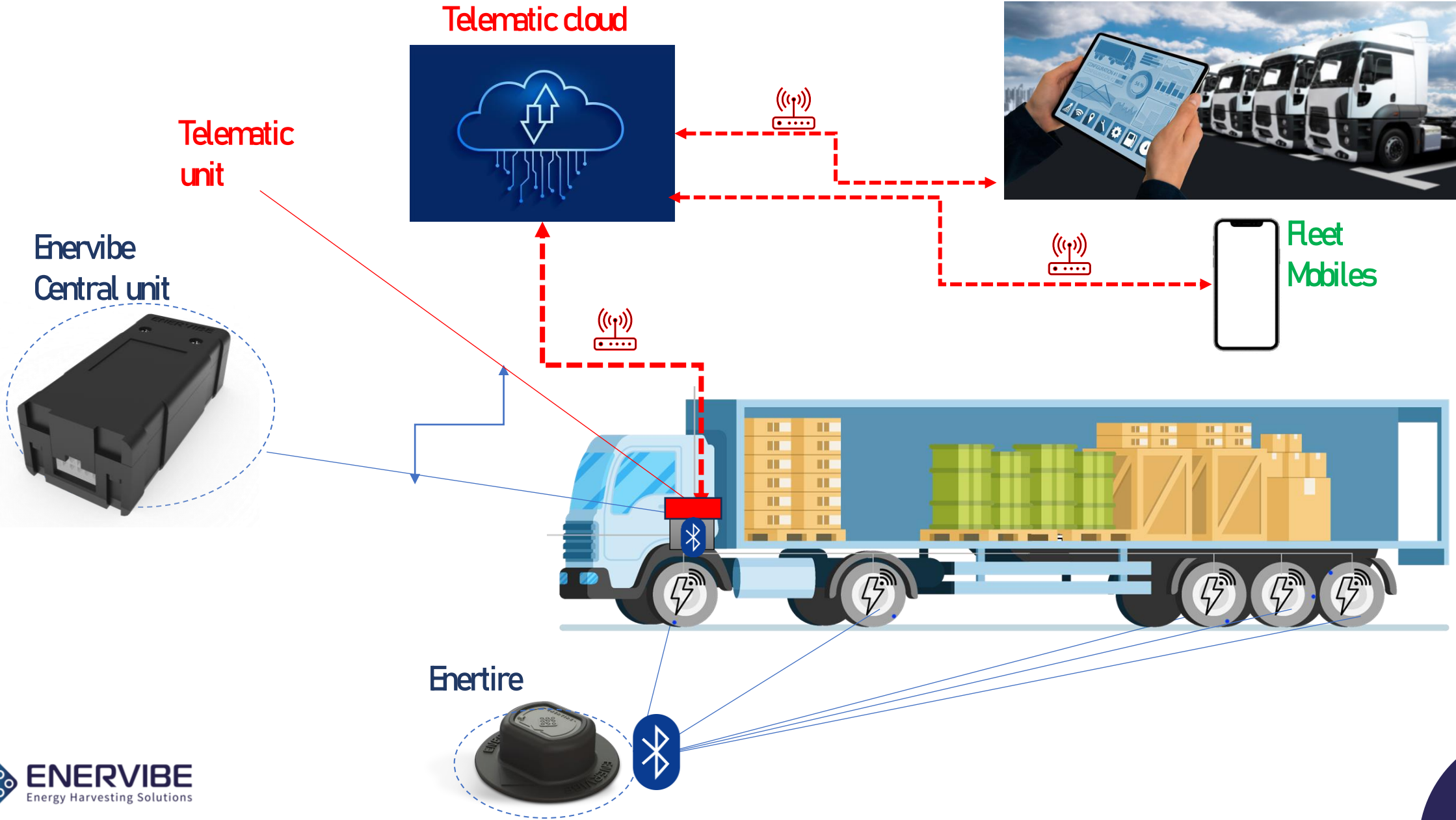
Telematic cloud

Telematic unit

Enervibe Central unit

Fleet Mobiles

EnerTire



Competitive advantage

Enervibe is the only one using energy harvester as energy source which is translated into 3 main advantages:

- ✓ Ability to operate wide range of sensors – **complete solution for all needed data**
- ✓ High sampling & transmission data rate
- ✓ Ease of installation –
 - Auto detection for sensor position in vehicle (via MESH)
 - Data transmission from tires directly to cabine without repeaters




Traction and Engagement

Company	POC schedule	Module in test	Paid	Status /comments
Global Tire MF #1	4 POC's/2021-2	EH		Completed successfully. Will approach us for their next generation. Tech session is planned for Oct.
Global Tire MF #2	Q4 22	ET		POC #2 on going toward Joint development Agr.
Global Tire MF #3 ^{US} _{EU}	Q1/2023 Q3/2023	EH ET		Parts under evaluation in the US. Parts for EU will be evaluated by Oct/Nov.
Global Sensor MF #1	Q1-Q3/2023	EH+ET		POC #1 completed. XXX submitted long term plan up to mass production H2 2024.
Global Tire MF #4	7/2023	ET		Parts under evaluation.
Global Tire MF #5	Q3/2023	ET		POC #1 under evaluation, POC #2/on road planned for Q4, first mass installation planned for Q1 2024
Global Tire MF #6	7/2023	EH		Parts shipped by July and will be evaluated by Oct.
Global Sensor MF #2	7/2023	EH		Parts shipped by July and under evaluation
Automotive OEM #1	Oct 22, March 23	ET		2 nd Demo for Autonomous vehicle weight was done by March and next step is under evaluation
Local fleet evaluation	March-Sep 2023	ET		2 nd POC completed, will move to larger pilot by Q4 2023.

ET – Enertire/full module. **EH** – Energy Harvester only

confidential

Traction and Engagement cont'

Company	POC schedule	Module in test	Paid	Status /comments
Telematics Service #1	Q3-4/2023	ET		1 st pilot by Oct. Incl. communication between Enervibe ET to XXX system,
Telematics Service #2	Q3-4/2023	ET		1 st pilot on-going Incl. communication between Enervibe ET to YYY system,
Automotive OEM #2	Not Defined	TBD		Smart suspension - System to measure movements & pressure for passenger cars
Electronics OEM	Q4 2022	EH		Smart shoes - In Process
White goods OEM	Q4 2023	ET*		Application for white goods

ET – Enertire/full module. EH – Energy Harvester only

confidential

Dash board and added value to fleet management

To reduce fuel consumption by 5%, extend tire life time by 20%, reduce 70% of vehicle tire road fault



Fleet Performances

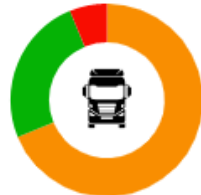
Last update : 4/16/2023 5:00:00 PM

VEHICLES

Total Vehicles

16

- In Alert 1 vehicle(s)
- In Warning 11 vehicle(s)
- No alerts 4 vehicle(s)



[show details](#)

SAFETY

Total monthly events

15

- Over weight 4
- Overheat 7
- Under pressure 4



[Safety details](#)

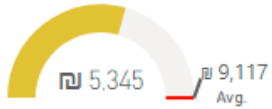
WASTE

Total Monthly Waste

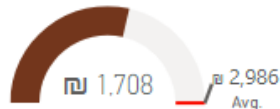
₹ 7,047



Monthly Fuel Waste



Monthly tires wear



1.1 Tires wasted



[Waste details](#)

FLAT SAVINGS EVENTS

Total monthly events

₹ 16,600

4 event(s)

₹ 46,981

Annual forecast saving



[Saving details](#)

TIRE REPLACEMENT COMPARISON

Avg. Km/ Tire

135,995

Avg. wear cost 1K Km

₹ 11.79

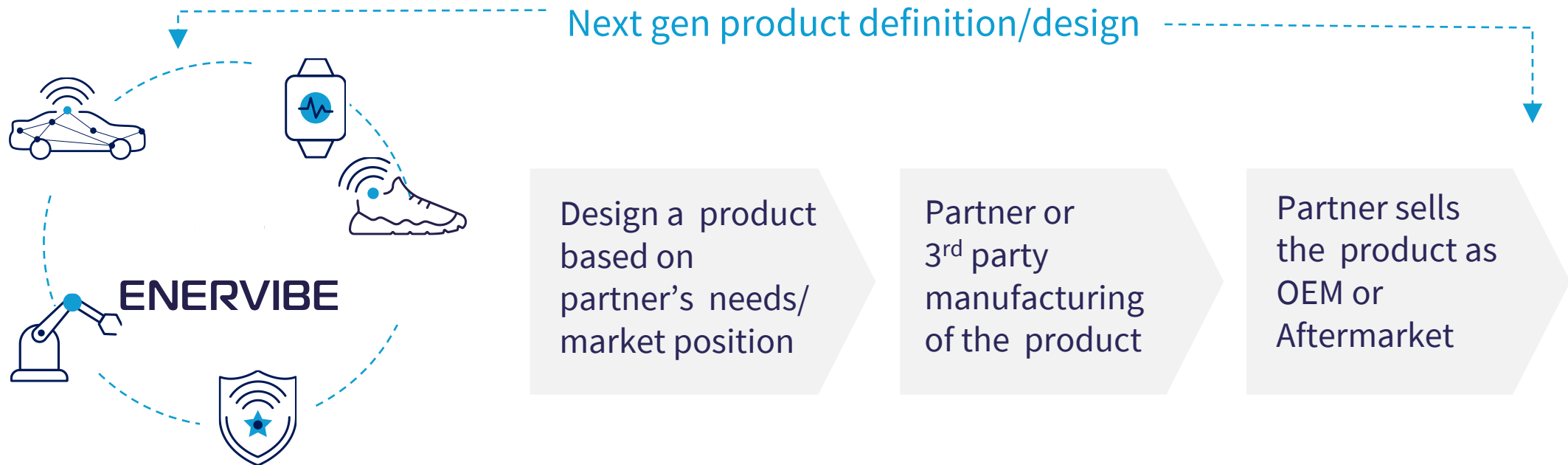


[Tier Comparison](#)

Use Cases & Go to market

Go To Market Strategy

Partner with top players in each target market to design, produce and sell a joint-product based on our unique energy & data harvesting technology and partner's market strength



Use cases

**2023-2024 focus is
the tire &
automotive vertical**

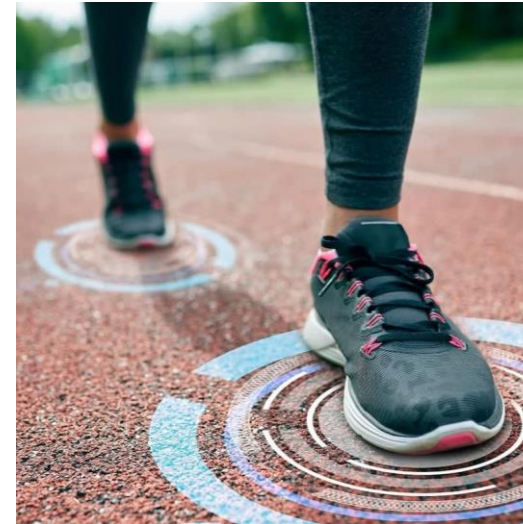
Tires, Fleet performance,
Vehicle sensors



Industrial IoT for
predictive maintenance



Wearables - Fitness trackers,
smart watches & shoes



Defense & homeland
Security devices



Summary



Innovative energy source & data provider to wide business categories



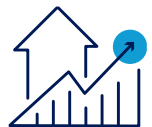
Extensive, robust & strategic IP portfolio



World's Most advanced & powerful in-tire Energy Harvester



Experienced leadership team with extensive domain expertise



Huge addressable markets, high CAGR, with potential rapid ROI



Substantial strategic traction, validated product market-fit