

Date: 07.03.2022

<b>The Officer-In-Charge (Listing)</b> Listing Department National Stock Exchange of India Ltd., Exchange Plaza, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051 Scrip Code: MINDACORP	<b>Head - Listing Operations,</b> BSE Limited, P.J. Towers, Dalal Street, Fort, Mumbai – 400 001 Scrip Code: 538962
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**Sub: Intimation under the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 for presentation on meet with Analyst and Investors**

Dear Sir,

In reference to intimation letter dated March 04, 2022, please find attached herewith the copy of presentation discussed during the meeting with Analyst and Investors at Pune on March 04, 2022.

This information is also being uploaded on the Company's Website [www.sparkminda.com](http://www.sparkminda.com)

This is for your information and record please.

Thanking you,

Yours faithfully,

**For Minda Corporation Limited**



**Pardeep Mann**  
Company Secretary  
Membership No A13371

# Spark Minda

Investor & Analyst Visit in MCL Facilities – SMIT & EME  
04<sup>th</sup> March 2022

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# Event Time Line

Sr. No	Event	Responsibility	Timeline
1	Greetings and Arrival	Bikash Dugar & Anshul Saxena	11:00pm-11:30pm
2	Group Presentation and Q&A	Suresh D, Nikhil K	11:30pm-12:45pm
3	Products Demo	Suresh D, Vinay P, Nikhil K	12.45 pm – 2.00 pm
3	Lunch		02:00pm-02:30pm
4	EMI/EMC, Testing Facility, Sample Shop	Mohan K	02:30pm-03:30pm
5	Vehicle Demonstration	Suresh M	
6	Electronics Manufacturing and Assembly Line Visit	Nikhil K	
7	Tea and Q&A	Suresh D/ Vinay P/ Nikhil K	3.30 -4.00 pm

# COVID Protocols – Do's and Don'ts



Maintain Social Distancing



Sanitize Hands



Wear Mask



Do not give hand shake



Always use tissue while sneezing

Do's

Temperature screening



Follow the guidelines Instructed



Do not touch and carry any parts while visiting

Don'ts

No Photography



Do not enter restricted area

Do not crowd at one place





## GROUP ENGINEERING CAPABILITY

- Engineering Capability ◎
- SMIT ◎
- EMI/EMC Lab ◎
- Robotic Paint Shop Facility ◎

## GLOBAL TRENDS IMPACTING INDIAN AUTOMOTIVE INDUSTRY AND OUR OFFERINGS

## NEW TECHNOLOGY INHOUSE JOURNEY SO FAR

## NEW TECHNOLOGY PRODUCT

01

02

03

04

CONTENTS



# SPARK MINDA Engineering Capabilities

## Spark Minda Technical Centre, Pune



Accreditation

300+ Engineers | Embedded Software  
EMI / EMC Lab, Anechoic Chamber



200+

~ 50 % in last 5 years

Total IPs / Patents Filed



~2.0%

of annual revenue

R&D Spending



450+

Engineering Headcount

## Engineering Capabilities to Address Future Trends

### E&E, WH Connection Systems & digitization



50+ Engineers | WH Design | E&E  
Architecture



100+ Engineers | Digital  
Clusters

### Power Electronics & Vehicle Access



20+ Engineers | Power  
Electronics



50+ Engineers | Vehicle  
Access solutions

### Electronics Hardware



### Embedded Software



### Testing, HIL, SIL, EMI/EMC, CAE

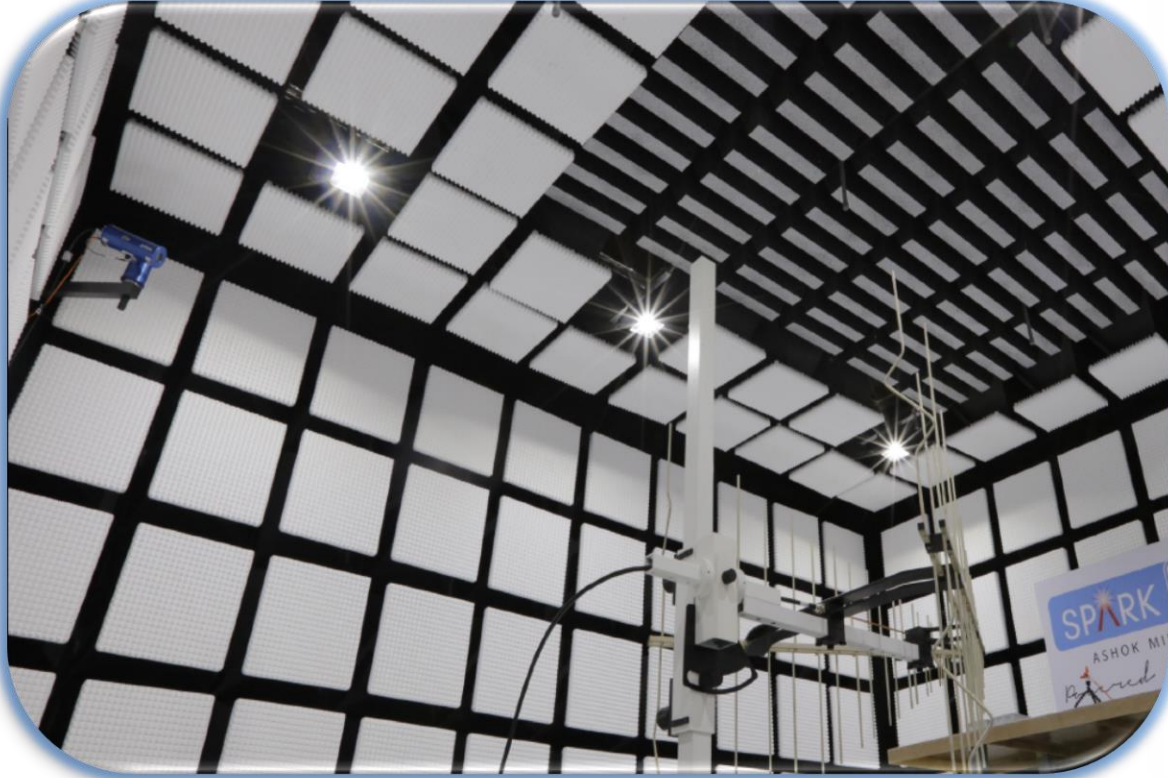


### Mechatronics Engineering



# State-of-the-Art EMI/EMC Facility

## State-of-the-art Anechoic Chamber



The EMI/EMC Lab is capable of undertaking various ISO Test Pulses cases such as ISO-7637-2, ISO-7637-3, and ISO-16750

	Size (LxWxH)	Range
Anechoic Chamber	6m x 5m x 3.15m	3 Hz – 3.6 GHz
Bulk Current Injection	4.5m x 3m x 2.4m	1MHz –400MHz
Electrostatic Discharge	3.0m x 3m x 2.4m	±200V to ±30kV
Conducted Immunity and Conducted Transient Emission	3.6m x 3m x 2.4m	-

## Accreditation



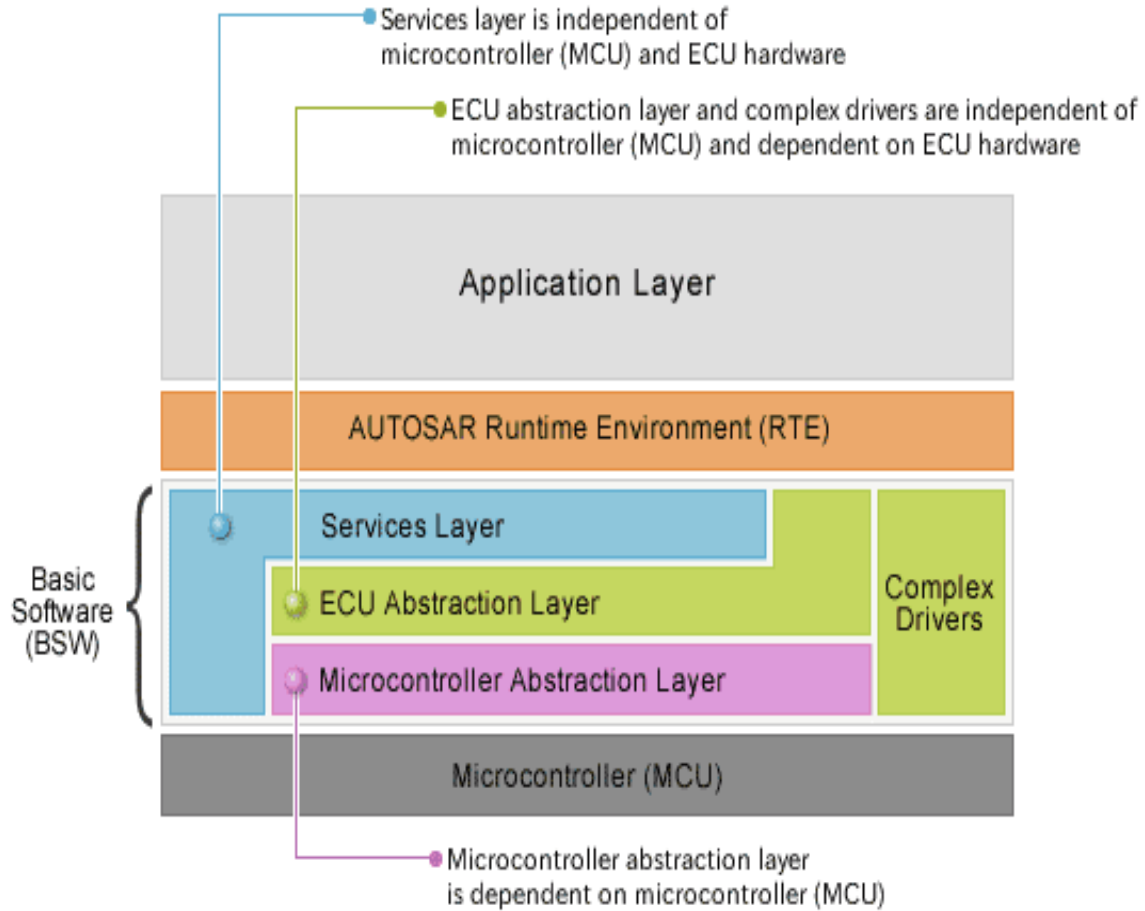
## Test Undertaken:

- Radiated Emission
- Conducted Emission
- Radiated Immunity
- Bulk Current Injection
- Electrostatic Discharge
- Conducted Immunity and Conducted Transient Emission

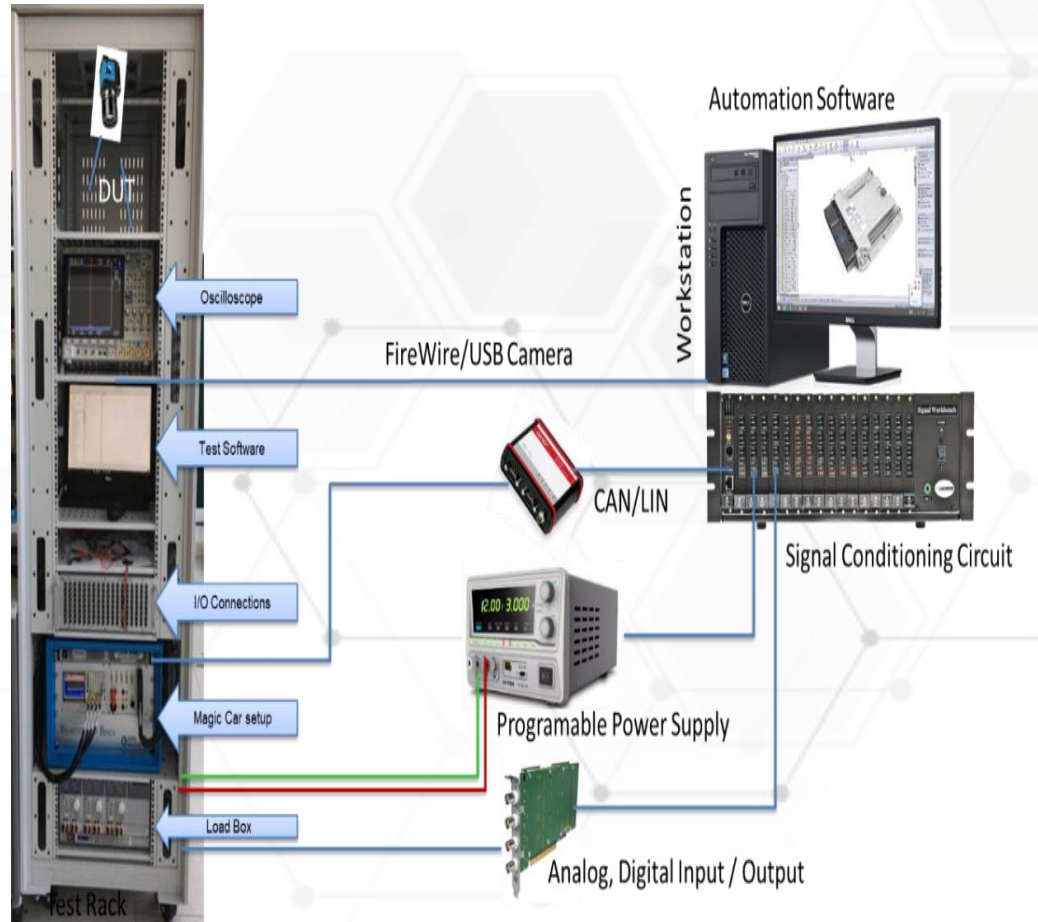


# SW Reliability using HIL/SIL

## Platform Approach



## Hardware In Loop Automated Testing





# State of Art – SMT Facility



## State of Art – SMT & THT facility

- ✓ Separate SMT and THT facility (Robotics Soldering)
- ✓ Clean Room – ISO 8, upgradable to ISO 7
- ✓ 30K CPH (Practical, rated 70K) expandable upto 45K CPH
- ✓ 3D SPI & 3D AOI
- ✓ 10 Zones Reflow Oven (Full N2 capability)
- ✓ Smart storage solution (Temp. & humidity control)

## Salient Features:

- ✓ Fully Automatic line – no manual intervention except loading/unloading
- ✓ Traceability at each station
- ✓ Stage interlocking (Feed back & Feed Forward)
- ✓ IOT based data acquisition feasibility
- ✓ Easy change over



# GLOBAL MEGATRENDS IMPACTING Indian Automotive Industry

## Global Trends



Urbanization



Digitization



Rising GenZ

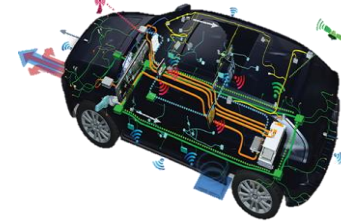


Sustainability

## Trends Impacting India



Connectivity & Shared Mobility



Vehicle Electronification



Vehicle & Passenger Safety



Vehicular Emission, CO<sub>2</sub> and Fuel Economy



Vehicular Light-weighting



Human Machine Interface



Big Data & Digitization



Virtual Assistants



E-Mobility

Highlighted in green are the trends where the Company is working.



## Global Trends



## Trends Impacting India

### Connectivity & Shared Mobility



Antennas



Telematics

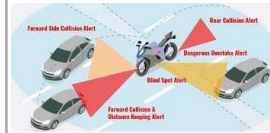


ITS



Connected Digital Cluster

### Safety



2W iRAS



Airbag Wiring Harness



Cyber Security



4W ADAS



TPM Sensors

### Light-Weighting



Oil Pan



Cup Holders



Air Vents



Ash Tray



AI Die-Casting Parts

### Electronification



Keyless Entry Solutions



Immobilizer



MFECU/BCM



TFT Cluster

### Emissions



Wiring Harness



Compressor Housing



Powertrain Sensors

### eMobility



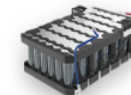
Battery Charger



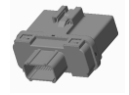
Motor Controller \*



DC to DC Converter



BMS\*



VCU \*

\* Under Development ITS: Intelligent Transportation System iRAS: Intelligent Rider Assistance System MFECU/BCM: Multi-Function Electronic Control Unit/Body Control Unit BMS: Battery Management System VCU: Vehicle Control Unit

# CUSTOMER Centricity



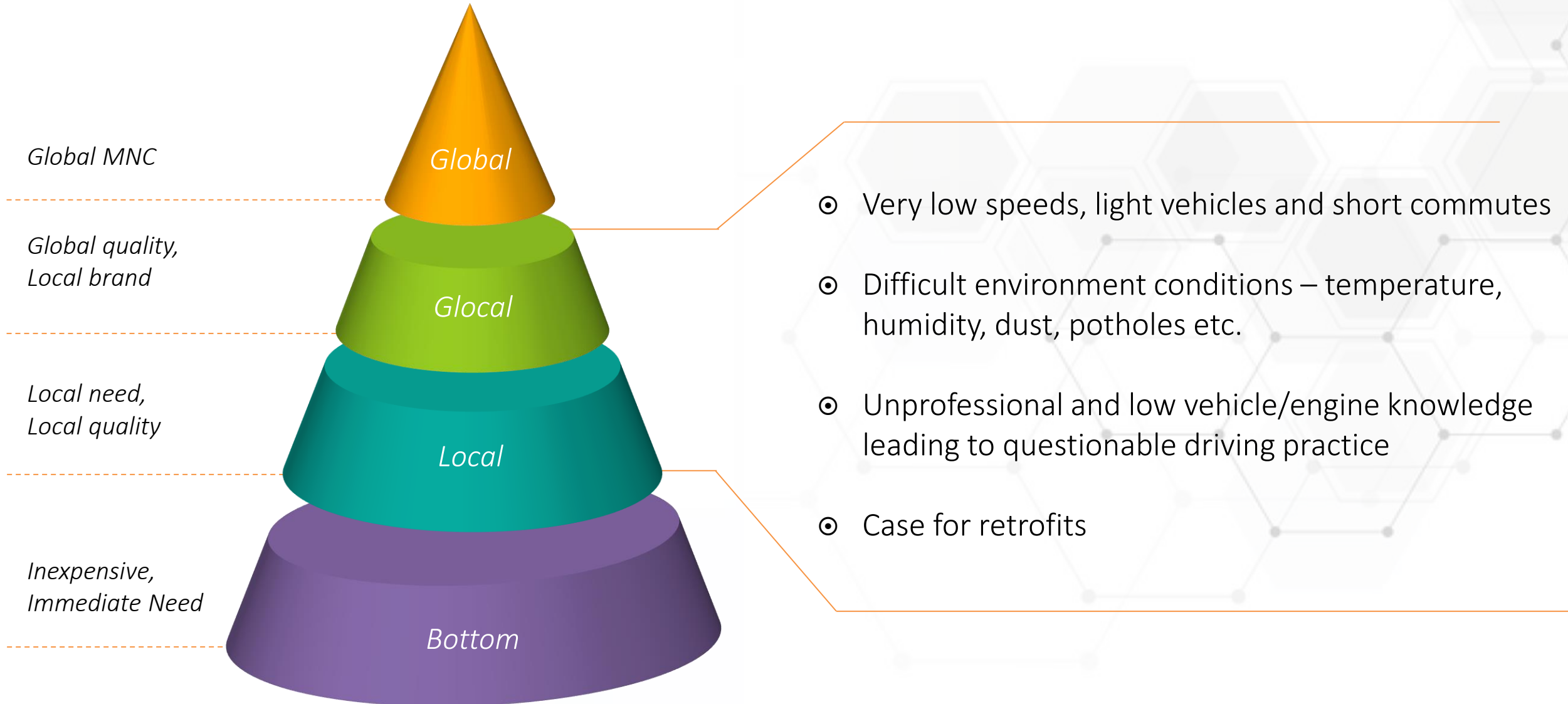
WHAT DO WE OFFER  
Key to sustainable  
Growth

## KEY TO SUSTAINABLE GROWTH





Bottom-up strategy to create a *Robust, Cost Effective Solution* catering to *Local Need* with *Global Quality*



# SPARK MINDA 3 Pronged Approach

*Engaging in technology tie-ups with global counterparts with strong regulatory support is a potential way forward for local suppliers*

## Setting Up own R&D Unit

- ⦿ Suppliers to set up their own R&D for new technology
- ⦿ Requires large investments in terms of money and time

*We have already set up our state-of-the-art in-house R&D facility for advanced solutions while simultaneously scouting for partners to bring in quality, scalable, cost effective solutions*

## JV's with Global Players

- ⦿ Entering into JV's with global suppliers would give Indian suppliers access to existing technology
- ⦿ Commercialization of technology at the shortest time with the potential to further develop joint IPR ownership in the future.



## Technology Licensing

- ⦿ Licensing of existing technology from global suppliers' and sub-components to manufacture in India
- ⦿ Further development of licensed technology is often challenging

# NEW TECHNOLOGY IN HOUSE Journey So Far



**Successful Keyless Entry Solution (2W) resulting potential opportunities**  
*(Bajaj, Hero, Yamaha, Piaggio, OLA, TVS etc..)*



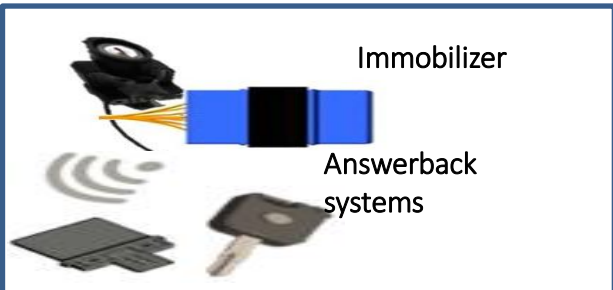
**EV-Successful launch & industrialization of DC/DC convertor, Charger resulting a huge opportunity**  
*(Ashok Leyland, Virya, TVS & BMW )*



**Successful acquisition of ITS 2.0 business & under Industrialization**  
*(Ashok Leyland, 2 more in LOI stage)*



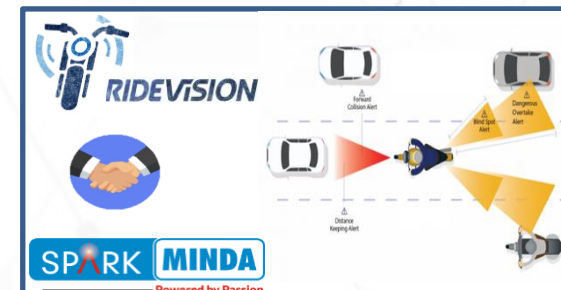
**Successful acquisition of connected cluster & under Industrialization**  
*(Greaves, Mahindra, Classic Legends)*



**Ready platform of standalone Immobilizer and Answer back systems for electronification**  
*(Hero, KTM, M&M,)*



**Successful start and ramp-up of ODC business. EMI/EMC testing with NABL accreditation as USP**



**Partnership with Israeli start-up Ride Vision for 2W Rider safety (iRAS) and working with Foreign partners in 4W ADAS**

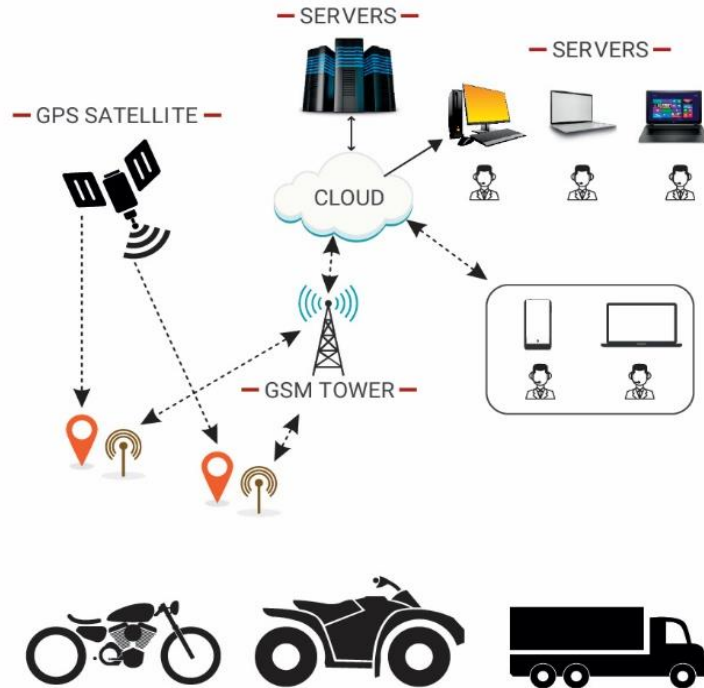


**SMIT has filed 35 provisional patents with a majority over Key less System and EV**

**Inorganic products addition : Antenna and EV Battery Charger portfolio added with a partner**

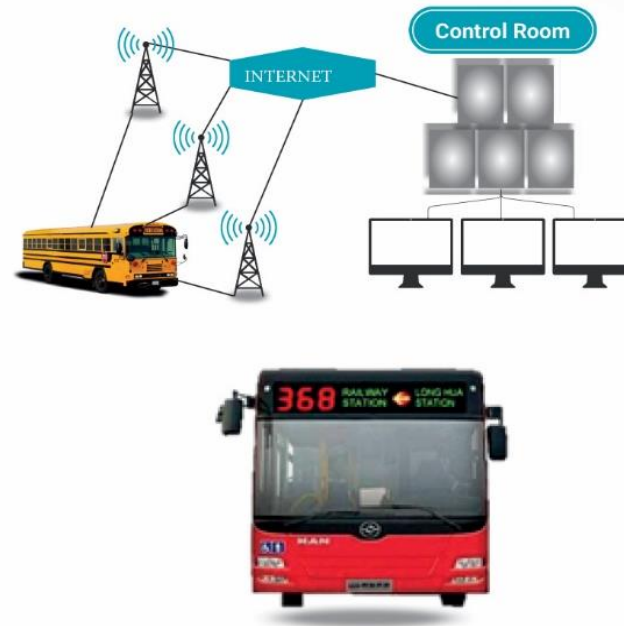
# SYSTEM SOLUTION: End-to-End Product Development

## Connected Mobility Solutions



UBSII & IS 16833 Certified System In-vehicle Passenger Information System, Voice & Data Connectivity In-vehicle Video Surveillance System

## Intelligent Transport System 2.0



AIS 140 Certified In-house end-to-end expertise in technologies related to telematics

## Key Less Entry System Solution

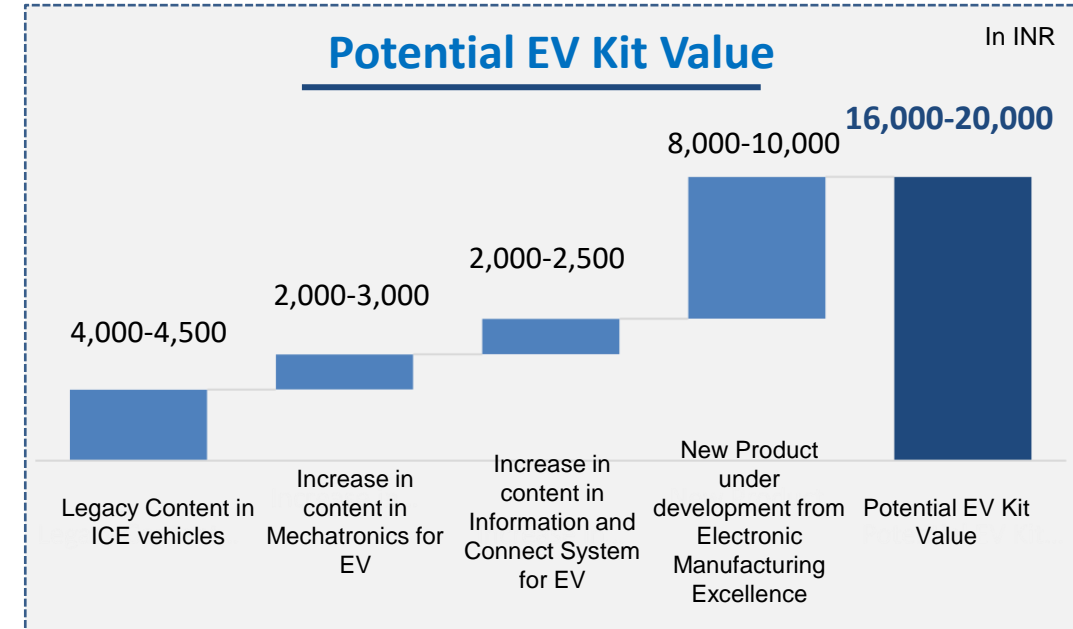
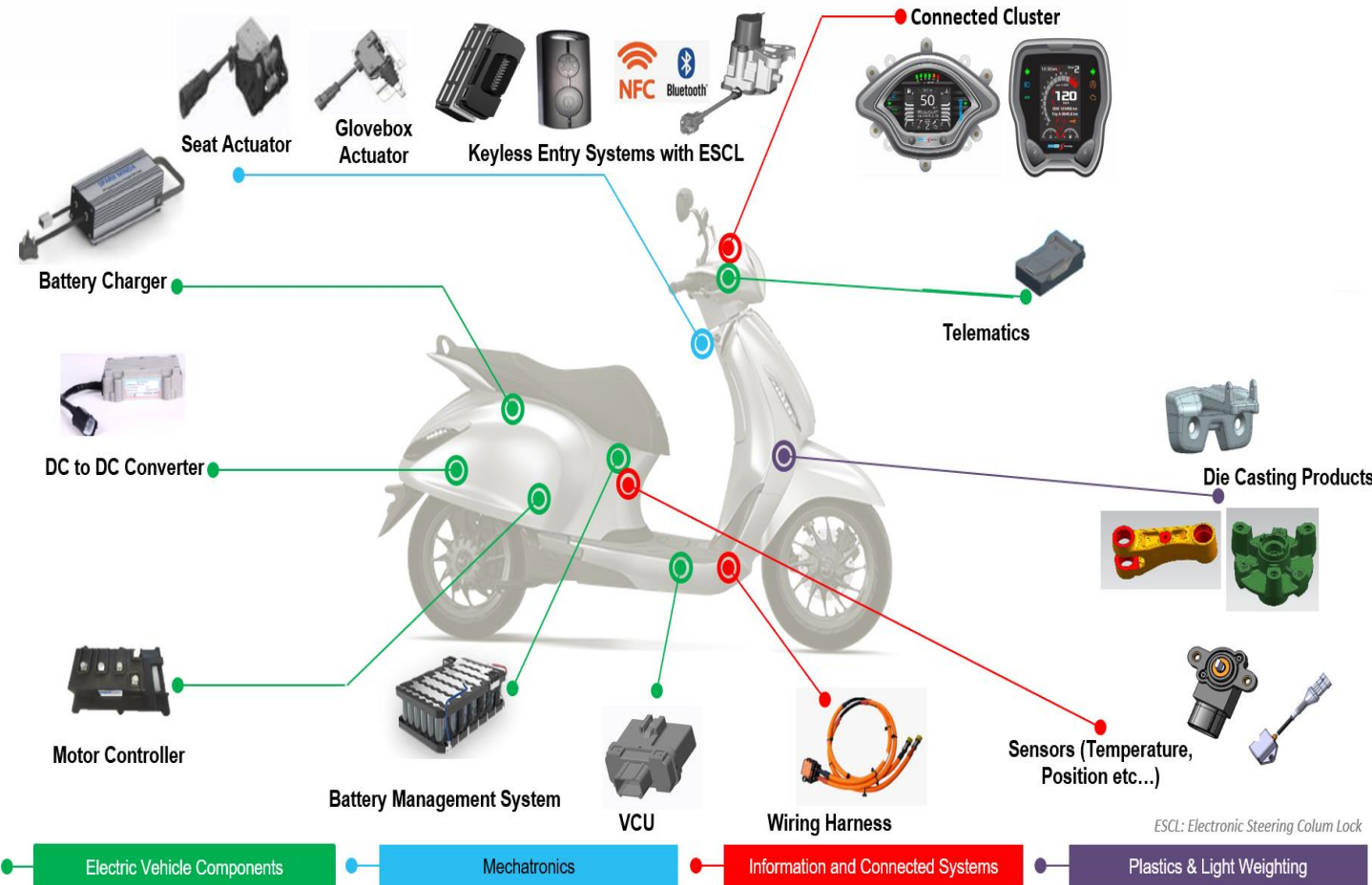


21 IP's are filed (HW, System & Mechanical) in Key Less Entry Systems



# Electric Vehicle: Opportunity

Most of our Product is Electric Vehicle Agnostic and it only enhances the content



### EV Customers



# CUSTOMER TRUST ON New Technology Product

## Customer Won



Premiumisation, Lightweight, and Increased Electronic Content offerings in existing products

Keyless solution (Knob Type, Push type, integrated ESCL)

BSVI & EV Wiring Harness

Digital Clusters

Connected Clusters

Bracket less

Door Handles

Low Cost Immobilizer

Oil pan etc

Keyless solution (with BLE, NFC),

Cyber Security

Power tail gate etc



Connected, Safety, Electronic, EV products for existing & future segment:

DC-DC Convertor

Telematics

ITS

MFECU

Antenna

EGT Sensors

Battery Charger

Motor Controller

BMS

ADAS



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*Thank You*

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