

Projects & Experience

Boopal M

Voltam Elektrik- Volektra

Senior Engineer- R&D (EV Drives)

1. Improvement Initiates

- 1kW to 1.5kW BLDC Motor winding pattern optimized and which results in 40% performance enhanced.
- Worked on EESM project to build a prototypes, including miniature model windings.
- Designed and developed test benches, test fixtures like
 1. Motor & Controller functional test benches
 2. Back emf test fixtures
 3. Differential axles test benches
- Developed Retro fit kits for bikes & autos, enabling easy and quick conversion to fully electric vehicles.

2. Project & process management

- Led the team to develop the IC engine vehicles into fully electric.
- Led the engineering team to prepare and maintain the process documents which includes BOM, Drawings, PFD, and CP, PFMEA, ECN, CFT minutes, floor plan layout, packing standards and more.
- Process optimisation- making adjustments to improve process efficiency, effectiveness and adaptability.

3. Testing, customization & troubleshooting

- Led the team for the product validation testing's.
- Collaborated with the team and analyse the test results and troubleshooting if any issues.
- Initiating the cross functional team meetings for improvise the product and the process.
- Modifying the firmware of the controllers as per the customer or project requirements and handled the software tools like CAN and non CAN based firmware tools.

4. Homologation certification process

- Collaborated with the customers for the homologation certification processes like ARAI & ICAT.

5. Benchmarking through reverse engineering

- Had an hands-on experience in benchmarking the BLDC & PMSM motor and recreating through reverse engineering.
- BLDC trapezoidal wave controller circuit tracking and localised the through hole component circuits.

1. Improvement Initiates

- Developed load banks for internal testing to simulate loads on diesel generators upto 250kva.
- Designed and prepared wiring harness for 250kva & 750kva diesel generators.

Developed special panels for generators and machineries like

1. Automatic control panel, Remote, GSM based panels
2. Synchronise panel for diesel generators.
3. Multiple control starter panels and more.

2. Process preparation & execution

- Created process documents like BOM, process flow, Circuit drawings, Test reports

3. Installation & commisioning

- Intallation of the control panels in customer place and conduct commissioning after the intallation.

4. Servicing & Troubleshooting

- For the faults, will analyse and find the root cause for the issue and troubleshoot the issue.

Other projects

1. Personal innovation

- Designed and developed automatic hand sanitizer dispenser with integrated temperature sensor unit, which controls the motorized door opening based on the temperature of the person