



# **NEXT-GEN AUTOMOTIVE ELECTRONICS AND CONNECTIVITY SOLUTIONS**

**Engineering | Manufacturing | Digital**



**ACCELERATE YOUR AUTOMOTIVE INNOVATION  
WITH VVDN**

[www.vvdntech.com](http://www.vvdntech.com)

# AUTOMOTIVE ELECTRONICS ENGINEERING

The automotive industry is currently witnessing several significant trends, including a focus on sustainability through electric vehicles, the development of autonomous vehicles, cockpit experience of users, and the growing connectivity of cars. Additionally, there is a trend towards shared mobility and the adoption of autonomous systems that enhance safety and the driving experience.

VVDN is developing a wide range of best-in-class automotive services and solutions, including e-mobility systems, autonomous systems, digital cockpit systems, and connected car systems. As a leading provider of technology solutions, we understand the ever-evolving landscape of the automotive industry and strive to support our technology partners, global OEMs, auto manufactures, and tier-1 suppliers staying ahead of the curve by continuously innovating and investing in the latest technologies.

## OUR OFFERINGS

### E-Mobility

- Battery Management System (BMS)
- EV Chargers
- On/ Off Board Chargers (2W/3W)
- EV Stations

### Autonomous

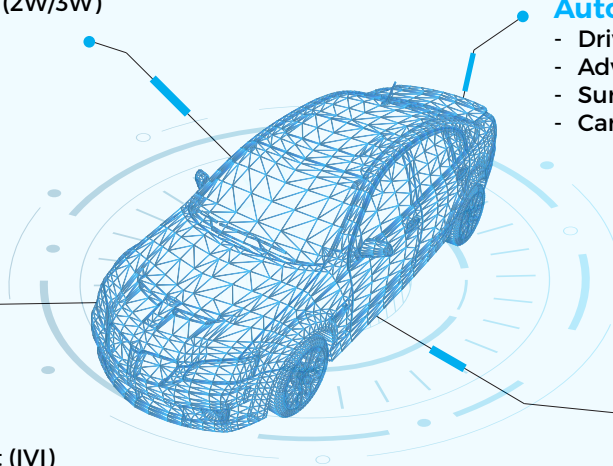
- Driver Management System (DMS)
- Advanced Driver-Assistance Systems (ADAS)
- Surround View Monitoring (SVM)
- Camera Mirror

### Digital Cockpit

- Digital Clusters
- In-Vehicle Infotainment (IVI)
- Pillar to Pillar Displays
- Rear View and Night Vision Camera

### Connected Cars

- Telematics
- Telematics Cloud
- EV Cloud
- Video Cloud



## OUR SERVICES

Hardware  
Engineering

Software  
Engineering

Embedded  
Engineering

Cloud  
Engineering

Mechanical  
Engineering

Functional Safety  
Design (ISO26262)

Cyber Security

Verification and  
Validation

Compliance  
Testing

Manufacturing

## OUR EXPERTISE

### Automotive Camera Expertise

- Image Signal Processing Tuning
- Rear View & Night Vision Camera
- Computer Vision (Image Classification & Object Detection)
- Camera Mirror
- ADAS Camera
- 360° Panoramic Images & Video Stitching

### Automotive Edge Computing

- Vehicle-to-Everything (V2X) Protocols
- Feature Development
- Real-Time Traffic Monitoring on Edge
- Telematics: Vehicle Tracking, GPS and Surveillance
- Vehicle Detection & Counting
- License Plate Detection & Recognition

### Automotive Cloud Expertise

- Firmware & Security OTA Upgrades
- Cloud Application Development
- DevOps and CI/CD
- AI/ML on the Cloud
- On Board/ Off Board Connected Apps
- Machine Vision and TensorFlow

### ADAS

- ADAS Framework Development & Optimization
- IP Stacks for ADAS
- Smart HMI Alerting ADAS Functions
- Sensor Fusion - LiDAR, RADAR, Camera Based, & IR Based
- Sensor Modelling & Simulation
- Lane Departure & Forward Collision Warning

### Driver Behaviour Intelligence

- Cigarette Smoking & Seat Belt Detection
- Face Recognition
- Drowsiness Detection
- Gazing Around Detection
- Phone Usage Detection
- Video Cloud Analytics

### Cockpit Expertise

- Design and Developing Cluster and IVI
- Platform & Board Bring up
- Android Application Development & Integration
- BSP & Kernel Porting Across Android & Linux
- Device Driver Development
- USB, AUX & BT Media Development



## TECHNOLOGY & TOOLS EXPERTISE

### HMI Tools

- QT
- HTML5
- Proprietary

### In-Vehicle Networking

- LIN
- CAN, CAN FD
- Ethernet AVB

### Operating Systems

- Android
- Linux
- QNX
- RTOS
- BIOS

### RF Expertise

- BT/BLE
- NFC
- Wi-Fi(802.11b/g/n/ac/ax)
- 5G/LTE/4G/3G/GS
- GPS

## WHY CHOOSE VVDN FOR YOUR AUTOMOTIVE ENGINEERING NEEDS?

- Strong competency in developing EV chargers and stations, BMS, digital cockpit solutions, automotive cameras, sensor and driver integration, telematics, ADAS, DMS, and vision-based algorithms.
- Expertise in Automotive operating platforms, such as Android, Linux, QNX, RTOS and BIOS.
- Access to emerging technologies through platform partnerships with silicon companies like Qualcomm, NXP, NVIDIA, Texas Instruments, Ambarella, Mediatek, Inferion, and Telechips.
- Knowledgeable in industry certifications and standards, including Functional Safety (ISO26262), IATF 16949:2016, ISO 13485:2016, ISO 9001:2015, ISO 14001:2015, and AEO (TI).

### About VVDN

VVDN is a Product Engineering & Manufacturing company focused on designing & manufacturing end-to-end products across several technology vertical markets (5G, DataCenter, Networking and Wi-Fi, Vision, Automotive, IoT, Cloud & Apps). VVDN's India HQ is located at Gurgaon, India and its North America HQ's is located in Fremont, CA, USA. VVDN serves global customers across several regions including US, Canada, Europe, India, Vietnam, Korea, and Japan. VVDN has 11 advanced Product Engineering Centres in India and across the globe, and 7 Manufacturing facilities located at Manesar, Gurgaon, and Pollachi, Tamil Nadu, India, which includes in-house best-in-class SMT Factory, Molding & Tooling Factory, Die Casting, Antenna Assembly, Sheet metal fabrication facility, Product Assembly Factory, and Product Certifications labs. VVDN's Engineering & Manufacturing facilities are fully compiled to develop & manufacture Enterprise, Consumer, Industrial, and Automotive-grade products.

For more information, please visit [www.vvdntech.com](http://www.vvdntech.com)