



DGE Inc.

## DGE Inc.

At DGE, we specialize in providing innovative and cost-effective solutions to complex customer challenges.

Founded in 1984, DGE Inc. is a full service engineering company in Rochester Hills, Michigan. DGE incorporates a variety of services, capabilities and technologies tailored to our customers' individual program requirements.

Our people are dedicated to understanding, supporting and anticipating our customers' product development requirements.

DGE is ISO 9001 registered.

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## Automotive Electronics Consulting

DGE Inc. collaborates with the automotive OEMs, Tiers, and Aftermarket suppliers to develop and validate electronic designs. Our expert hardware and software engineers will support your product development activities by providing consulting services and design work. DGE will help to speed the module design and validation process by advising regarding the OEM product development cycles and providing project management and coordination. We'll provide recommendations to help you integrate your product into the complex vehicle system and confirm that it functions properly.

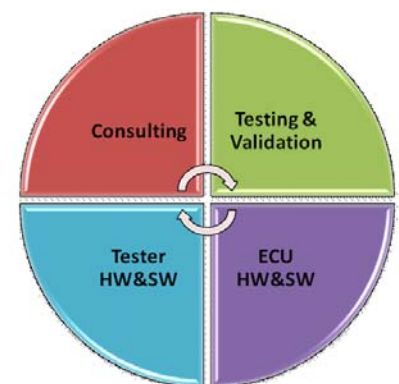
### Electronic Module Development

DGE provides consulting regarding ECU hardware and software development and manufacture to OEM specifications. We collaborate with Tier 1 suppliers on OEM programs for ECU HW/SW design, and support the customer through product launch. We also consult on aftermarket suppliers' electronic design projects and help bring their products to market. We have expertise in the areas of body electronics, powertrain, telematics, infotainment, and vehicle networking, as well as overall systems design and intelligent transportation systems (ITS).

### Test Equipment and Testing Services

DGE provides consulting regarding test equipment and system testing:

- ECU testers, simulators, and HIL systems
- End-of-Line (EOL) tester design and build
- ECU embedded test code development
- End-to-End Telematics System testing & validation



### Integration and Validation

DGE provides consulting on integration and validation testing. We'll recommend the appropriate validation tests for your product at the vehicle, subsystem, ECU, and microprocessor level to ensure safety, compatibility, and improved customer experience. We can subject your product to OEM test specifications or create a customized, rigorous independent test plan to verify that the module "plays nice" with all of the other components in the vehicle.



DGE Inc.

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# Solutions for Vehicle Electronics

## DGE Inc.

Providing electrical engineering design and consulting services to the automotive OEMs, Tier and Aftermarket Suppliers.

### Integration

With our experience and expertise, we assist our partners in integrating their products into the OEM vehicle. We focus on the entire vehicle system.

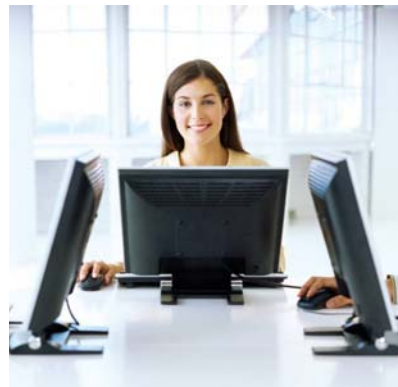
### Consulting

We collaborate with OEMs and Tier suppliers to develop and validate electronic designs. We support your EE activities by providing prototype design and consulting services. We speed the process by advising regarding the OEM product development cycles and provide project management and coordination.

### Design

Areas of expertise include:

- Embedded Software and Hardware
- Telematics
- Vehicle Networks
- Testers and Simulators
- Communication Gateways
- ECU/Subsystem Hardware
- System Integration and Validation



### Products

- **Automotive Network Gateways**
  - CAN / GM-LAN/ Ford FNOS
  - Ethernet
  - LIN
- **Vehicle Bus Interfaces**
  - ECU subsystem for seamless access to OEM vehicle network
  - OEM-Safe Aftermarket Gateway
- **Custom Automotive Development Tools**
  - Engine Simulator
  - Transmission Simulator
  - Telematics HIL Vehicle Drive Simulator
  - High Speed Data Acquisition System
  - Load Boxes (design or build to print)
- **Custom Automotive Designs**
  - Body Control Modules
  - Telematics / Infotainment Control Modules
  - Motor Control Modules
  - Hybrid/BEV Battery Control Modules
- **Telematics Designs**
  - GPS
  - GSM/CDMA
  - Bluetooth, WiFi
  - DSRC / Car2x On-Board Equipment

### Services

- **Hardware Design**
  - Embedded Circuit Design (MCU, ASIC, FPGA, CPLD, Power, and RF Technologies)
  - Prototype and Production Vehicle Module Design
  - ECU Test, Validation, and Simulation Equipment Design
- **Software Development**
  - Embedded Solutions
  - PC Solutions
  - C, C++, and Assembly Language
  - Real Time Operating Systems Application Design (Linux, OSEK, and Others)
  - National Instrument LabVIEW (Real Time, PDA, FPGA)
- **Testing and Validation**
  - Vehicle Bus Software and Hardware Design Validation
  - Vehicle-Level Bus Validation
  - ECU Diagnostics Validation
  - End-to-End System Integration and Validation
- **CAD and Lab Services**
  - Schematics and PCB Layout
  - Electronic Packaging Design – Solid Modeling
  - Complete Electronic Box Builds
  - Prototype Vehicle Modifications
- **Project Management**
  - Coordination / Management of Entire Customer Projects
- **Vehicle Electronics Troubleshooting and Consulting**



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