Rhapsody:

Software Engineering:

UML:

Requirement Management:

Embedded System:

Automotive Electronics:

ISO 26262:

Unit Testing:

Automobile:

Control System - EEE:

C Language:

Automotive Electronics:

**Role of Automotive Electronics in Cars**

Due to pervasive electronics systems in automobile operations, manufacturers have been able to improve the driving performance, efficiency of fuel, and both the driver's and riders' comfort. It is remarkable to note that the number of electronics components are progressively increasing with time because of the need to improve everything from fuel efficiency and driver safety. As a result, more mechanisms are getting transformed from mechanical systems to electronic ones.Significantly, in a matter of around three decades, the high-tech cars of 1980s have turned into auto electronic engines with computer-controlled systems. Cars are no more just a means of transport. Today, a modern car is equipped with nearly hundreds of electronic systems. Innovation in automotive electronics technology has turned mere driving into a sophisticated pleasurable experience. Embedded systems have become the core of every automobile’s architecture. They are used in [safety airbags](http://www.evelta.com/sensors/accelerometers-gyros-and-inertial), anti-lock brake, radio, music system, telematics, parking ability, and lot more.In addition, it is noteworthy that these electronic parts can digitally control most of your car’s operations. Integration of electronics in core engineering of cars such as the engine, its transmission, brakes, and auto control steering continue to expand. The electronic systems installed in a car can be classified as engine electronics, chassis electronics, safety device electronics etc.

### Electronic Subsystems in a Car

- Engine Ignition  
    - Fuel Injection  
    - Anti-lock Brakes  
    - Steering Control  
    - Collision Avoidance Systems  
    - Seat Control  
    - Air Conditioning  
    - Navigation System  
    - Safety Controls  
    - Security Alarms  
    - Transmission Controls  
    - Music System  
    - Head and side lights

The central panel of the car is the interface between you and your car, that offers you utmost comfort and convenience at the tip of your finger. The components of the central panel regulate the temperature, navigation systems and [various sensors](http://www.evelta.com/sensors). The junction blocks have [relays and fuses](http://www.evelta.com/switches-and-relays) that integrate the different electrical circuits that back the overall electronic components.

A car's onboard devices are managed by its electronic control unit. The most relevant electronic part in a car or any automobile is its engine control which works in accordance with real time mechanisms. The engine control unit of a car has a [32-bit micro-controller](http://www.evelta.com/semiconductors-and-actives/microcontrollers) that typically controls the process of fuel injection, emission control, turbocharger control, AC system.