What is an ECU?

- An Electronic Control Unit (ECU) is an embedded system that controls electrical subsystems in a transport vehicle. Modern motor vehicles have up to 80 ECUs.
- The development of an ECU involves both hardware and software required to perform the functions expected from that particular module.

Types Of ECU (Electronic Control Unit)

With vehicles having multiple ECU they are divided on what tasks they perform. Some of these types are as follows.

1.**Engine Control Module**
With its sensors, the ECM ensures the amount of fuel and ignition timing necessary to get the most power and economy out of the engine.

2.**Brake Control Module**
Used in vehicles with ABS(Anti-lock Braking System), the BCM makes sure that the wheels are not skidding and determine when to trigger braking and let go of the brake to ensure the wheels don’t lock up.

3.**Transmission Control Module**
Used on an automatic vehicle, the TCM ensures you get the smoothest shifts possible by assessing the engine RPM and acceleration of the car.

4.**Telematic Control Module**
Another one with the same abbreviation this TCU ensures the car onboard services are up and running. It controls the satellite navigation and Internet and phone connectivity of the vehicle.

5.**Suspension Control Module**
Present in Cars with active suspension systems, the SCM ensures the correct ride height and optimal changes to suspension depending on the driving condition.

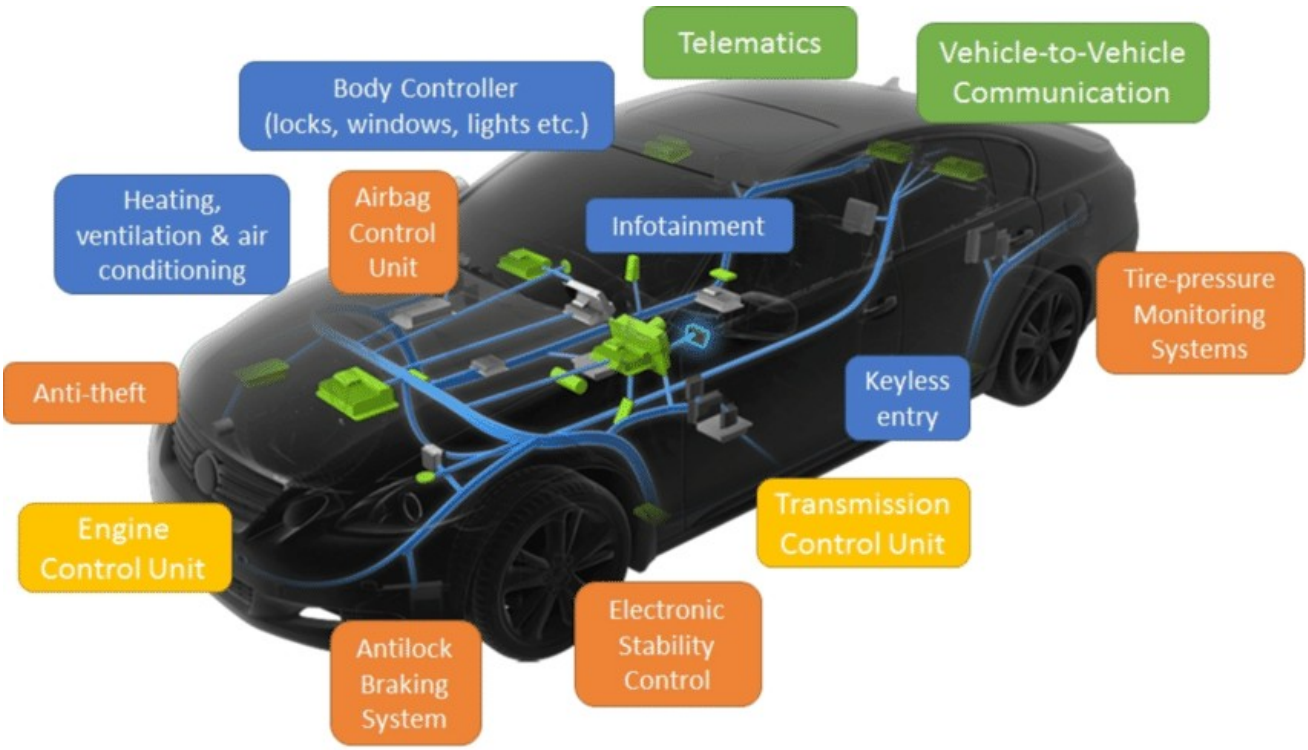

Fig :- Different ECU's in a Car

Block Diagram for Airbag Control Unit:-