HEV and EV Simulation in GT-DRIVE (2 days)

This class is intended for those from corporate and individual engineers who are interested in developing Hybrid Electric Vehicle (HEV) or Electric Vehicle (EV) models for fuel economy or range studies. The course includes theory, construction of models, and use of GT-DRIVE. Participants will get good amount of time for practice of software. The following topics will be covered:

- Duration - 2 days; 1 Session; 8 hrs per day
- Trainer industrial experience - Over 16 years

**Agenda:**

- Modeling HEV and EV components including batteries, electric motors, and energy management controls
- Modeling different types of hybrid architectures
- Battery cooling modeling
- Model setup - initialization, parameters sweeps, convergence, etc.
- Post-processing using GT-POST
- Subassemblies - internal, external, and encryption
- Driver control (automatic and manual transmission)
- Driving cycle analysis (with model based targeting controller)
- Engine start/ stop
- Regenerative braking
- Integration of vehicle drivetrain system with engine/ cranktrain model
- Simulate a dynamic HEV and investigate the results on changing different variables
- Model and simulate of different types of HEV/EV architecture
- Understanding integrated simulation with various sub-systems

![Image of simulation process](image-url)