

EV & HEV Drivetrain Technology

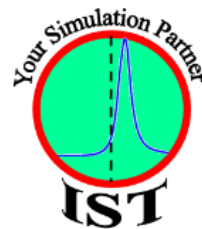
16 Hours **ADVANCED** Training on

Performance
calculation



Component
sizing

Brief 1D GT-Suite
simulation



IST Pvt Ltd

EV, HEV & Engine Development
Staff Augmentation
Corporate Training

Training Fees

Category	Training Fees per participant (Rs.)
Company Sponsored	8,000.00
Individual Sponsored	6,500.00

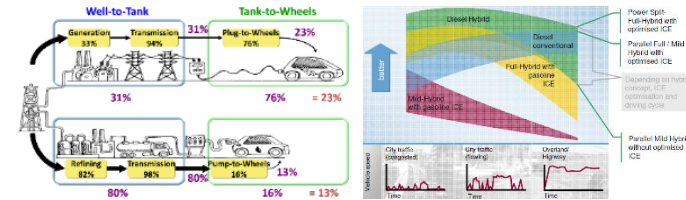
For registration, please contact us:

- E-Mail ID: subir.mandal@integratedsimtech.com
- Contact No.: +91-9763909935

Agenda Overview

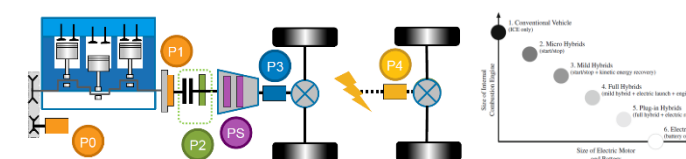
This advanced training module is about in-depth understanding on fundamentals, advanced technicalities, mathematical relationships, performance calculation, control system, sizing and selection at component level and system level of Electric Vehicle (EV) and Hybrid Electric Vehicle (HEV) drivetrain systems.

Why EV & HEV



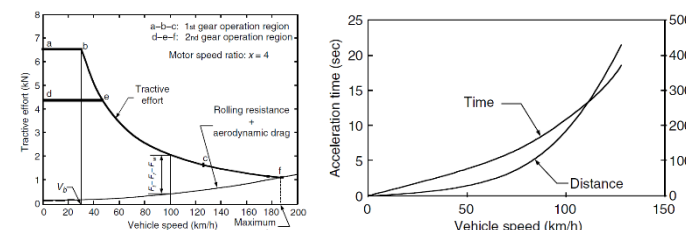
EV & HEV fundamentals and components

- ✓ Characteristic, classification, problem
- ✓ Component - working, performance, mathematical formula



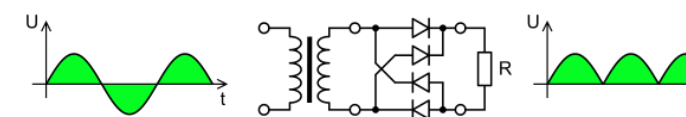
EV & HEV dynamics, performance & energy economy

- ✓ Vehicle dynamics, forces, tractive effort, limitation
- ✓ Calculation of acceleration, time, max speed, gradeability, distance, fuel/ energy consumption

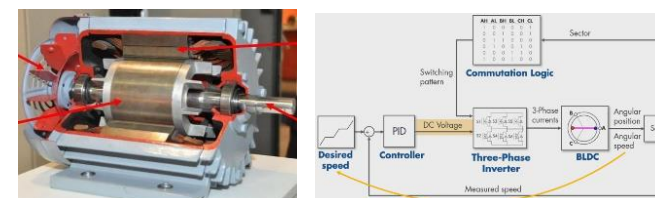


Electric propulsion system

- ✓ Power converter types, working, importance in EV & HEV



- ✓ Motors - working, classification, performance characteristic, mathematical formula, factors affect performance, control mechanisms, applications



Who Should Attend?

- Working professionals/ planning to work in EV & HEV drivetrain systems, Vehicle calibration
- Battery and E-motor manufacturers
- Electric 2-wheeler and 3-wheeler electric retrofitters
- E-rickshaw manufacturers
- OEMs/ Consulting Companies/ Start-ups
- Engineering Students/ Professors/ Scholars

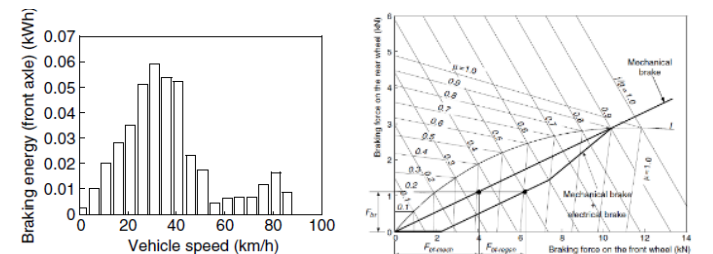
Battery

- ✓ Working principle, classification, pros & cons, performance parameters, applications, factors affect performance, charging control



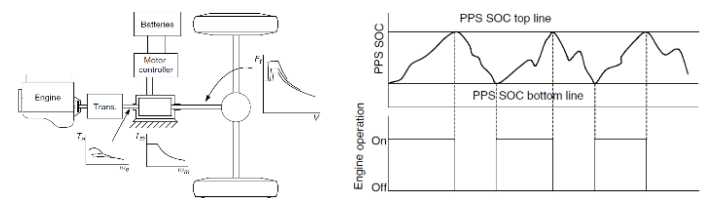
Regenerative braking and ABS

- ✓ Braking system, calculation, energy recovery control strategies, ABS



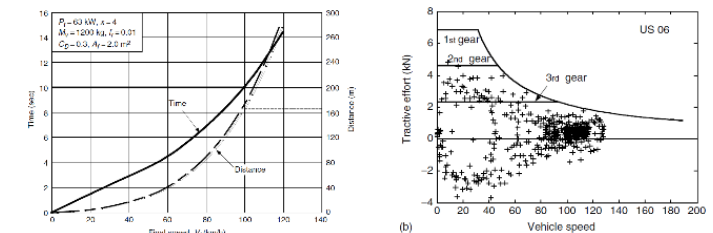
HEV drivetrain performance, control and selection

- ✓ Various configurations, control strategy, calculation of vehicle performance & energy consumption, motor, battery, engine sizing, and design examples



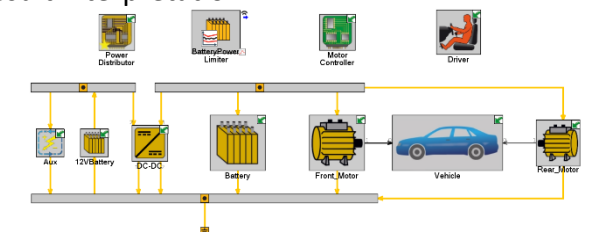
EV drivetrain performance, control and selection

- ✓ Various configurations, calculation of vehicle performance & energy consumption, motor, battery, engine sizing, and design examples



Brief exposure to 1D GT-SUITE simulation

- ✓ Brief discussion on EV model build, simulation and result interpretation



Trainer

- Over 19 years of industrial experience in diesel, gasoline, gas engines; HEV & EV; and aircraft engines
- 1D simulation domain – engine performance, cooling, HVAC, HEV & EV drivetrain, battery, lubrication, acoustics, hydraulics, cranktrain, and valvetrain
- Worked with GE, Cummins, ESI, MTU (Rolls-Royce), IST
- Conducting training for 10 years
- GT-SUITE user for 14 years
- M.Tech. from IIT Kharagpur

