



## eMobility: challenges and opportunities



### OBJECTIVE

- Understand the fundamentals of electric transportation, especially electric vehicles and electrified power transportation systems.
- Discover the principles of electric vehicles and the various types of battery technologies.
- Identify the main traction technologies and storage sizing for electrified power transportation systems.



### AUDIENCE

Any professional curious about the latest trends in e-mobility with a background in power systems and storage technologies.



### CONTENT

#### What are Electric Vehicles? Introduction

- Types & main characteristics
- Advantages of electrification over conventional drivetrains
- Comparative of hybrid architecture technologies
- Changes in the city transport model (Mobility as a Service, Micro-mobility, autonomous driving ...)

#### Plug-in Electric Vehicles (PEV)

- EV deployment
- Battery technologies
- Charging: Infrastructure: Connectors, charging modes and charging rates
- Future: Vehicle to Grid (V2G)

#### Network integration of electrified transportation

- Main impacts
- Corrective measures

#### Energy storage sizing for electrified public transportation systems

- Storage in an electrified transport system: Energy management systems
- Modeling and sizing methods: Practical case. Energy storage sizing
- Optimal sizing

#### Electrified public transportation systems

- Electrified route transport: Definition and current status, technologies and electric infrastructure, technologies and main development in the electric vehicle (chargers type, vehicles type, V2G, V2H...), communications protocol and challenges, opportunities and future trends
- Electrified railway transport: Definition and current status, technologies and electric infrastructure, communications protocol and challenges, opportunities and future trends

## LIVE ONLINE TRAINING

Duration: 12 hours

Dates:

June 21<sup>th</sup> – 22<sup>th</sup> or December 1<sup>st</sup> and December 4<sup>th</sup> 2023

Price: 720 €

More information and registration here:

<https://bit.ly/HitachiGridAcademy>