e-Bus System Planning and Optimisation

Organizer

PEVAcademy
pManifold Group

Certification Partner

ASDC
AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL

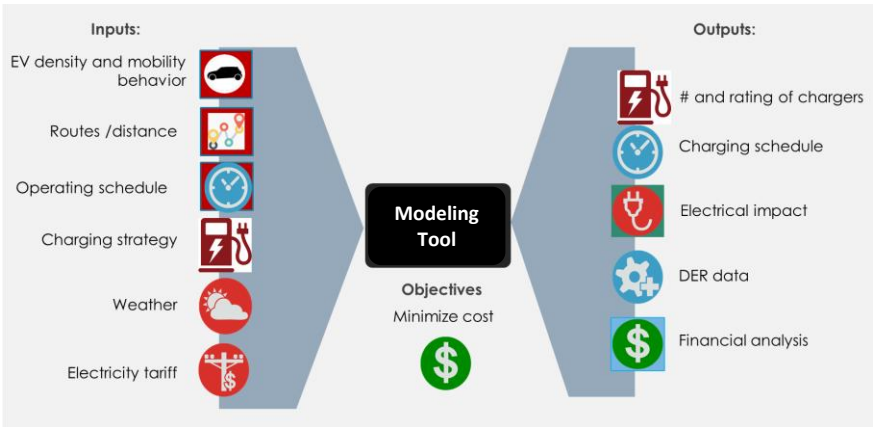
Registrations are open !!

Global Online Training & Certification Program

Planning to electrify bus fleet?
Wondering How and where to begin?
Which bus and battery?
Which Charging technology?
What Infrastructure?
Which routes?
Which vehicles?
What risks and cost?

You can learn here:

- **Understanding elements of e-Bus ecosystem and their interlinkages**
- **E-Bus, Battery and Charging Technology selection, overall system requirements planning, and economics**
- **Unique hands-on Modeling for Realtime problem solving and building future scenarios for desired e-Bus operations using Excel and EV Fleet Planning tool**



Our Uniqueness

Industry Valued Certification
Joint Certification with **ASDC** on completion

Global EV Experts
Trainers worked on global EVs & e-Bus fleet programs

Hands-on Modeling
Weekly practice sessions using pManifold's in-house Excel based fleet planning tool

Online Delivery
Learn from anywhere, by joining VC sessions or at your own pace

Easy time outside work
Virtual classes in evenings on alternate weekdays

e-Bus System Planning and Optimisation

Program Structure

#	Session Title	Session Coverage	Content Type	Duration
1	Elements of e-Bus System and Planning	E-Bus elements and specifications and system performance parameters Challenges faced by e-Bus operators Steps for conducting technical Feasibility & Planning for e-Bus fleet	Theory	1.5
2	Introduction to e-Bus system modeling	Essentials of e-Bus System Modeling (inputs and outputs) Introduction and setup of Modeling Tool Energy modelling for e-Bus	Theory	1.5
3	e-Bus System Modeling - Introduction and Base case setup	Setting-up system model and simulate base case study Case study: e-Bus energy modeling	Modeling	1.5
4	e-Bus Routes & Depot Selection and Network Planning	e-Bus Routes selection (route characteristics) Depot and Terminal selection Interrelations with Battery and Charging systems	Theory	1.5
5	e-Bus Charging Strategies and Trade-offs	Selection of charging locations, charger types, and time of charge Electricity Tariff and time-of-use impact on energy cost Charging strategies, evaluation and applications	Theory	1.5
6	e-Bus System Modelling and Simulation – Base case analysis	Case study: e-Bus route simulation using Excel Case study: e-Bus charging scheduling using Excel	Modeling	1.5
7	e-Bus Fleet performance Scenarios and Optimisation	Simulating and analyzing various real life scenarios affecting fleet performance Battery aging, local traffic ,weather, SLA variations and others	Theory	1.5
8	e-Bus Life cycle Costs and Optimisation	Capex elements Opex Elements Life cycle costs and KPIs Battery life and impact on e-Bus operational SLAs Life cycle cost optimization	Theory	1.5
9	e-Bus System Modeling and Simulation - Scenario's analysis	Case study: Review of e-Bus real life scenarios using fleet planning tool	Modeling	1.5

Evaluation	Final Exam Project Reviews

6 Theory sessions, each 1.5 hours

You can join the live online batch, or enroll for self-paced program

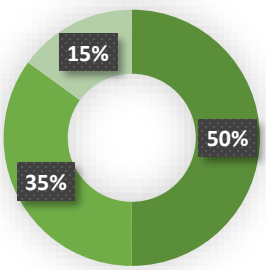
3 Modeling sessions

Hands-on modeling and simulation assignments using Fleet planning tool

4 Assignments

1 Final assessment

Certification after course completion based on
- Mini-project work
- Assignments
- Final assessment



Evaluation Criteria

- Mini-Project work
- MCQ based assessment
- Assignments

e-Bus System Planning and Optimisation

Key learnings from the training program

- ✓ Holistic understanding of e-Bus system, its components.
- ✓ Selection of battery and charging technology
- ✓ Route and network planning considerations
- ✓ Performance parameters for e-Bus System Optimisations
- ✓ Impact of Route characteristics, loading, weather and loading on e-Bus performance
- ✓ Optimizing e-Bus fleet and Charging operations.
- ✓ Capex and Opex optimization and calculating TCO

Our Trainers

Mr. Rahul Bagdia
MD, pManifold EV Academy

Academics: Dual Masters in Robotics & Control from University of Michigan, Ann Arbor, US

20+ years of extremely diverse global experience in various industries like energy & utilities, electric vehicles, heath & life sciences, banking & finance and education. Has worked with Government of India for Electric Vehicle Program Management Cell in areas of policy making, EV infrastructure development, distribution networks and power generation. He has been instrumental in supporting Policy and Technical Standards Development for Electric Vehicles for various countries.

Mr. Vikrant Vaidya
CEO, pManifold EV Academy

Academics: Master in Energy Systems Engineering from University of Michigan, Ann Arbor, US

20+ years of experience in vehicle development & integration - IC Engine, Hybrid Electric as well as Battery Electric Vehicles - for global platforms of Tata Motors, General Motors, Jaguar-Land Rover and Groupe PSA's upcoming BEV for emerging markets. Expertise in product development through powertrain-vehicle integration, model-based controller development and powertrain-in-vehicle calibration. A recruiter & technical trainer for 10+ years & has three records of the invention in hybrid powertrain, battery controls & repurposing.

Mr. Vikrant Garud
Master Trainer
pManifold EV Academy

Academics: Masters in Automotive Materials and Manufacturing, ARAI Academy Pune

7+ years of experience as a Researcher, Author cum eminent academician. Expertise in advanced and Smart automotive materials and working on implementation of it for various automotive applications. Have worked on various projects of CVRDE and VRDE, published 20+ research articles in the field of various automotive applications. Also, listed in FISITA's world database of experts and part of editorial board member of Elsevier since last 3 years.

And other industry experts…….

Program Formats:

- Self Paced
- Live Online
- Customized

Who shall enroll?

- PTAs staff,
- e-Bus OEMs and Manufacturers
- e-Bus Operators, Infra services providers
- Working Professionals, Consultants, Researchers
- Students: e-Mobility enthusiasts, Transport Engineers, Transport Planners And others

Click here to Enroll !

Up to 100% Scholarship available for Live online batches

Apply here

About Us

pManifold EV Academy:

A knowledge share vertical of 'pManifold Business Solutions PVT LTD', is working globally to build EV System skills among practitioners, EV enthusiasts, academia's, etc. Providing a wide range of live online, hybrid, and self paced training programs in product development to planning aspects, etc.
It is also working at organizational (B2B) level to deploy customized training programs.

ASDC:

ASDC is the first Sector Skill Council of India in Automobile sector and is founded to build a sustainable skill development ecosystem to ensure adequate availability of quality workforce to meet the automotive industry requirements. Currently, ASDC is working curriculum development, Standardisation, Training of trainers as well as certification.