

e-Bus System Planning and Optimization

Organizer



Certification Partner



Batch Starting from
09th June

**Registrations
are open !!**



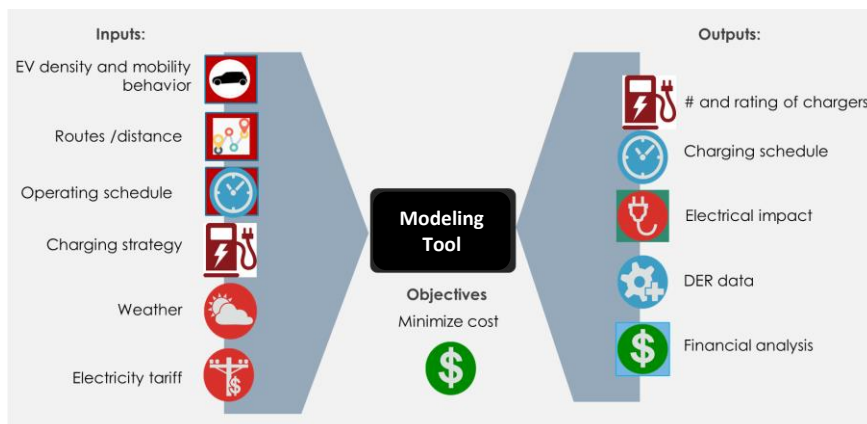
Global Online Training & Certification Program

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

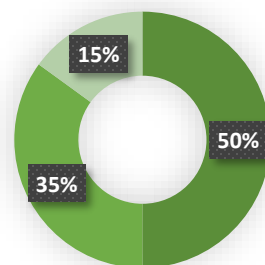
e-Bus System Planning and Optimization

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

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, each 1.5 hours Hands-on modeling and simulation assignments using Fleet planning tool
4 Assignments 1 Final assessment	Certification after course completion based on <ul style="list-style-type: none"> •Mini-project work •Assignments •Final assessment



Evaluation Criteria

- Mini-Project work
- MCQ based assessment
- Assignments

e-Bus System Planning and Optimization

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



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, health & 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. Rahul Bagdia

MD, 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 Vaidya

CEO, 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.

Mr. Vikrant Garud

Master Trainer
 pManifold EV Academy

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.