

E-Bus System Planning and Optimisation



Organizer



Certification Partner



Batch Start on

13th April 2021

**Tue and Thu
(19:30 to 21:00 IST)
& Sat
(16:00 to 19:00 IST)**

Live Online Training and Certification Program

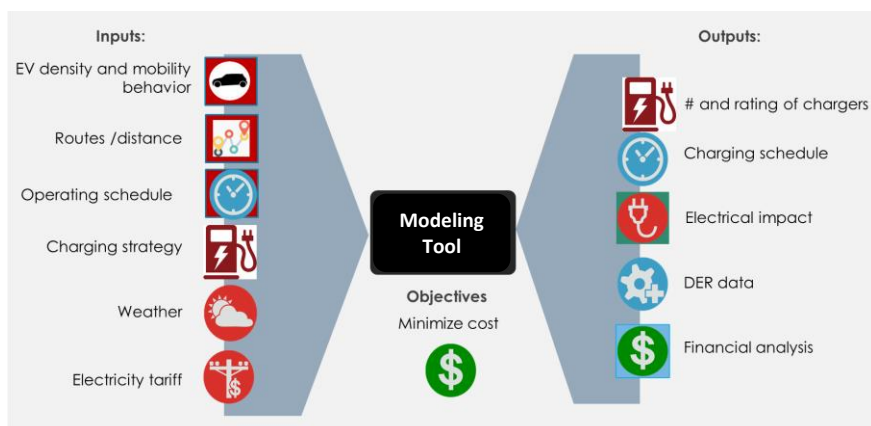
Planning to electrify bus fleet?
Wondering How and where to begin?
Which bus and battery?
Which Charging technology?

What Infrastructure?
Which routes?
Which vehicles?
What risks and cost?

**Registrations
are open !!**

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 Fleet Planning tool @pManifold's in-house Excel based tool



Live Online Delivery + Video Recordings
Join & learn from anywhere, also 2 months of content access



Easy time outside work
Theory sessions in evenings on alternate weekdays and practice sessions in afternoon on Saturdays

E-Bus System Planning and Optimisation

Program Schedule

Sr. No.	Session Title	Session Coverage	Method of delivery	Hrs	Week	Days
1	Elements of e-Bus System and Planning	<ul style="list-style-type: none"> 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	W1	Tue
2	Introduction to e-Bus system modeling	<ul style="list-style-type: none"> Essentials of e-Bus System Modeling (inputs and outputs) Introduction and setup of Modeling Tool Energy modelling for e-Bus and live demo 	Theory + Case Study	1.5	W1	Thu
		Assignment 1				
3	e-Bus System Modeling - Introduction and Base case setup	<ul style="list-style-type: none"> Setting-up system model and simulate base case study (tutorial) Case study: e-Bus energy modeling 	Practical-1	2.5	W1	Sat
		In-class Exercise-1				
4	e-Bus Routes & Depot Selection and Network Planning	<ul style="list-style-type: none"> e-Bus Routes selection (route characteristics) Depot and Terminal selection Interrelations with Battery and Charging systems 	Theory + Case Study	1.5	W2	Tue
		Assignment-2				
5	e-Bus Charging Strategies and Trade-offs	<ul style="list-style-type: none"> 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 + Case Study	1.5	W2	Thu
		Assignment-3				
6	e-Bus System Modelling and Simulation – Base case analysis	<ul style="list-style-type: none"> Case study: e-Bus route simulation using Excel and EVOPT Case study: e-Bus charging scheduling using Excel and EVOPT 	Practical-2	3	W2	Sat
		In-class Exercise-2 & 3				
7	e-Bus Fleet performance Scenarios and Optimisation	<ul style="list-style-type: none"> Simulating and analysing various real life scenarios affecting fleet performance such as; Battery Aging, local traffic ,weather, SLA variations and Others 	Theory + Case Study	1.5	W3	Tue
		Assignment-4				
8	e-Bus Life cycle Costs and Optimisation	<ul style="list-style-type: none"> Capex elements Opex Elements Life cycle costs and KPIs Battery life and impact on e-Bus operational SLAs Life cycle cost optimization 	Theory + Case Study	1.5	W3	Thu
		Assignment-5				
9	e-Bus System Modeling and Simulation - Scenarios analysis	<ul style="list-style-type: none"> Case study: Review of e-Bus real life scenarios using Excel and EVOPT 	Practical-3	2.5	W3	Sat
		In-class Exercise-4				
	Final Assessment		Online MCQ	1.5	W4	Tue

6 Theory + Case study sessions, each 1.5 hours (Total 9 hours)

3 Practical sessions, total 8 hours
 Hands-on modeling and simulation assignments using Excel and EVOPT

5 Assignments
4 In-class Exercises
1 Final assessment

Certification after course completion based on

- Attendance
- Assignment and
- Final assessment

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
- ✓ Optimising e-Bus fleet and Charging operations.
- ✓ Capex and Opex optimization and calculating TCO

Our Trainers



Mr. Rahul Bagdia

Managing Director and Partner, pManifold

20+ years global experience and leading e-Mobility and Utilities Practice at pManifold. Have worked with National and City Governments in India and other developing countries supporting e-Mobility strategic road maps, regulations, policies, standards, charging infrastructure development, new business models, and pilots, including e-Buses fleet assessment with multiple operators.



Mr. Vikrant Vaidya

Partner and Lead EV Systems Engineering, pManifold

20+ years experience in global automotive design and product development on multiple EVs and Hybrid vehicle platforms, specialising in model-based design, calibration, testing and system integration; a Six-Sigma Green Belt and a Master Trainer for EVs model-based development and system engineering.

And other industry experts.....

- Eligibility:**
- 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

Fees: Professionals: INR 42,373
Students: INR 25,424

Prices are Exclusive of GST

Following group discount is available

- 2 candidates= 10%
- 3 candidates= 15%
- 4 candidates= 20%
- 5 candidates or above= 25%

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Enroll !



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of up to 100%

Apply
here



ELECTRIC BUS SYSTEM PLANNING AND OPTIMIZATION
ONLINE CERTIFICATION PROGRAM



About Us

pManifold:

A Strategic Research and Consulting company, enabling Smart and Clean Tech Markets development and growth in Energy, E-Mobility, Solar, LVDC, Enviro and Urban sectors. It's EV Training Practice specialized in niche EV system-oriented courses to help the industry build new skills and drive improved EV adoption & experience.

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.