

Post Training Impact Report

e-Bus System Planning and Optimisation

Live Online Training Program



Organized by



Certification Partner



Program Summary

Under its **#eBusPlanningSkills** initiative, **pManifold EV Academy** is conducting **e-Bus System Planning and Optimisation**, a Live Online Certification Program in partnership with ASDC.



16

Total Hours

- 9 Theory hours
- 6 Practical hours
- 1 Assessment hour



06

Theory Sessions

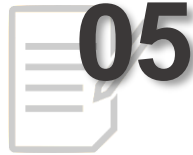
1.5 hour each



03

Practical Sessions

2 hour each



05

Assignments

1 per week

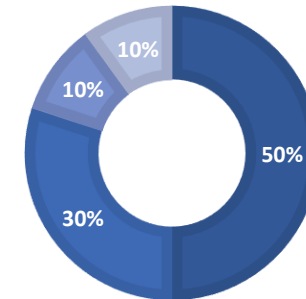


11

Group / Individual Projects

1 project for group of 2 participants

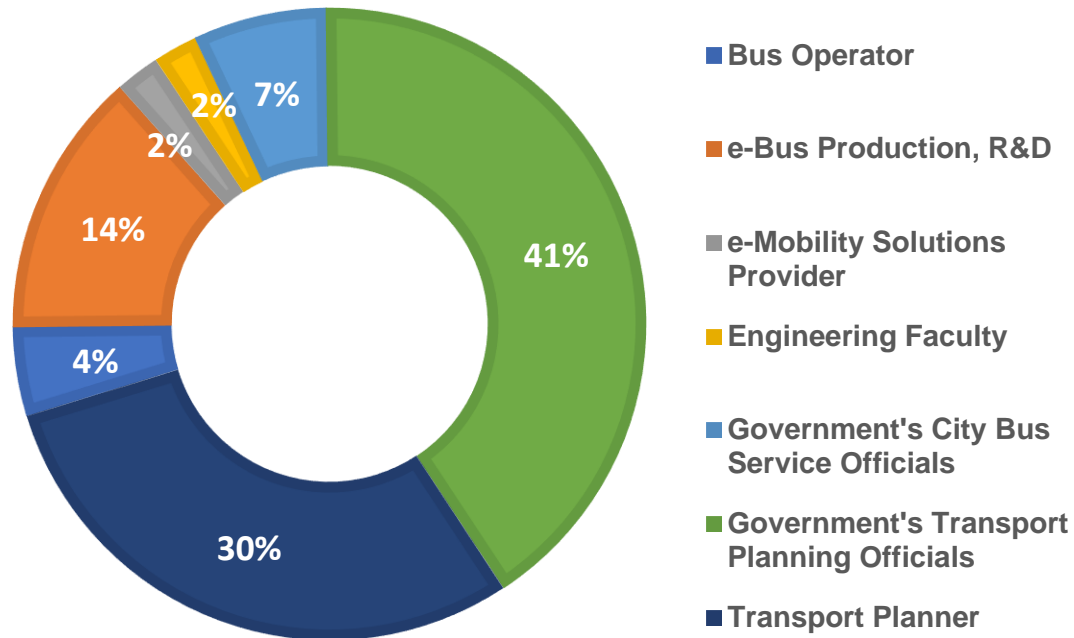
Evaluation Criteria



- Assessment
- Project
- Assignments
- Attendance

Program Uniqueness: First of its kind program globally to train participants in e-Bus Planning and Fleet Management by using tools like **EV Fleet Planner** and **Excel** and help them to understand the e-Bus ecosystem, charging infrastructure, route planning, and overall effect on e-Bus operation.

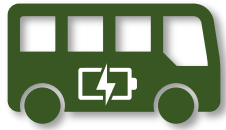
Participants Summary



63 participants

- ✓ Diverse batch including students, Transport planning professionals from Government as well as private organizations, Government officials from City bus transport services, transport planning consultants and working professionals in Automotive and e-Mobility domain
- ✓ Their different lenses of looking at Electric buses and Q&As allowed diving deeper into the topics with increased practical and applied discussions

Program Coverage



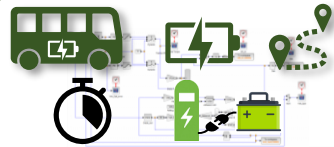
Elements of e-Bus System and Planning



Battery, Charging & Grid Infra/Systems Selection and impact on e-Bus Operations



e-Bus Routes & Depot Selection and Network Planning



e-Bus System Modeling and Simulation - Strategies



Scheduling of e-Buses & Chargers and overall Fleet Performance



e-Bus Life cycle Costs, Battery life and Optimisation



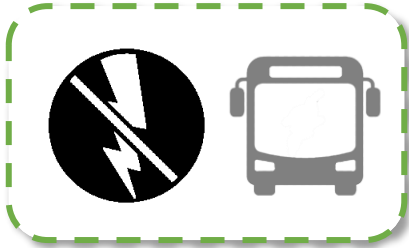
e-Bus mixed Fleet systems and Planning for Realities



e-Bus Charging Strategies and Trade-offs

- ✓ This program covered **total 9 Session** with below teaching style:
- Live online delivery from two Master Trainers
 - Recap of previous learning session
 - Interactive questions handling during each slide discussion
 - Additional application focus Q&A session at end of the session
 - Live practical sessions on **EV Fleet Planning Tool**
 - Assignment and EV fleet models debugging help by Trainer

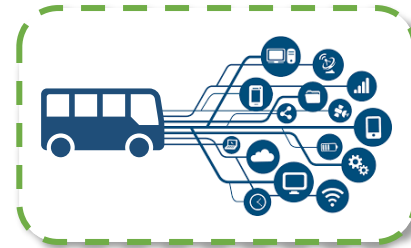
Projects completed by Participants



Power Outage



e-Bus Breakdown



**Technology
Regulation and
Deployment**



**Seasonal
Disruptions**



**Abnormally High
Passenger
Demand**



**Abnormally
High Energy
Routes**



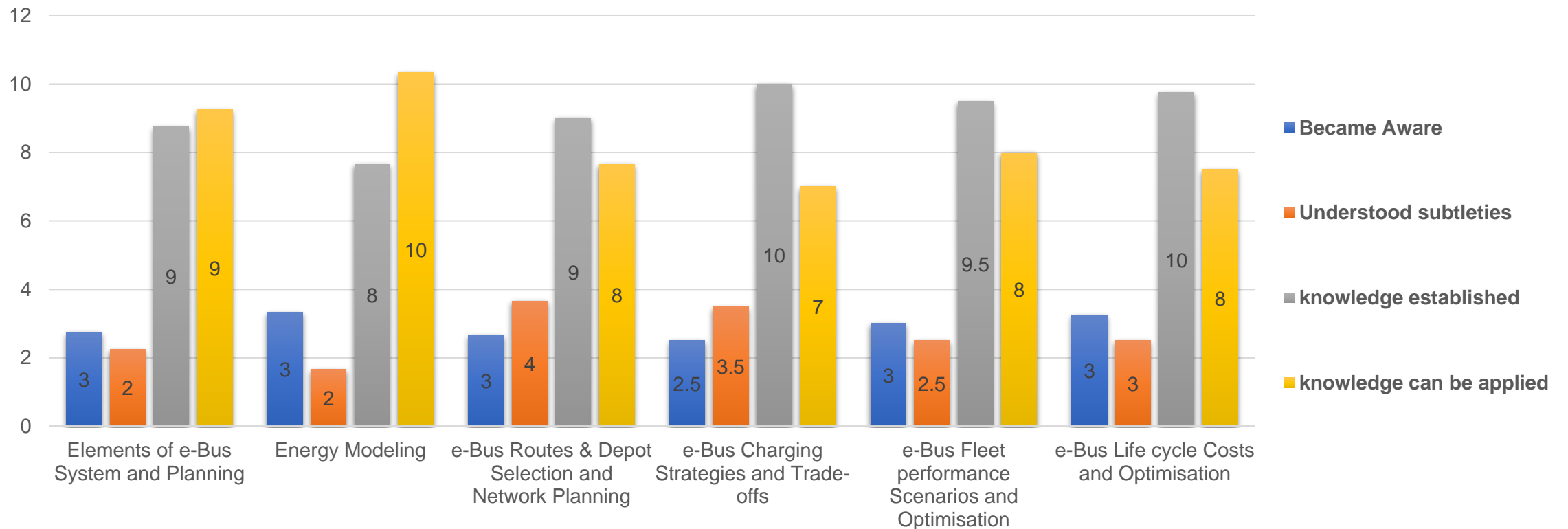
**Battery Aging Over
Life Cycle**



**Bus Scheduling
with Varying
Frequency**

Skills and Learning Assessment

Self Skill Assessment by Participants
(survey on important e-Bus Planning skills post the Training)



Our Experts



Mr. Rahul Bagdia

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

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

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

20+ years experience in global automotive design and product development on multiple EVs and Hybrid vehicle platforms, specializing 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.

Certification Partner



Other Programs



Electric Vehicle Systems Engineering

<https://www.pmanifold.com/ev-academy/electric-vehicle-systems-engineering/>



Battery Modeling and Simulation

<https://www.pmanifold.com/ev-academy/battery-modeling-and-simulation/>



Customer Usage

<https://www.pmanifold.com/ev-academy/customer-usage-patterns/>

Contact us

 +91 72496 85682

 evacademy@pmanifold.com

 www.pmanifold.com