Data Analytics for EV Integration
## The Future of Transportation is Electric

Decarbonizing the transportation sector is essential to realizing economy wide GHG reduction goals.

### Charging Infrastructure
- Geospatial analysis and site selection.
- Driving pattern and range anxiety.
- Garage orphans/underserved areas for public chargers.
- Load analysis with additional chargers simulation.
- Swappable battery charging stations.
- Infrastructure Investment/rate design.

### Fleet Electrification Feasibility
- Fleet composition - Summary of key stats by vehicle type.
- Assessment of fleets’ performance - Age/Mileage/Insurance/Estimated Battery Size.
- Route choice/activity location patterns/most halted locations/Fuel consumption.
- Current charging facilities assessment and new site identification.
- Vehicle battery charging and consumption simulation.

### EV Load Profiling
- Contribution of EV charging on grid load.
- EVs clustering on the distribution grid.
- TOU incentives to EV owners to charge their EVs in low demand periods.
- Electric vehicle driving, charging pattern, charger size and load shape analysis.
- EV/PV disaggregation and net metering.

### EV Adoption
- Electric vehicle growth forecast and the impact on the grid.
- Operational changes necessary to accommodate a growing EV fleet.
- Impact of incentivizing electric vehicle adoption.
- Census, climate, salary factor analysis.
- Customer awareness and engagement.
Utilities across the world have set bold commitments about advancement of EVs to simultaneously meet customer demand and cut carbon emissions while earning additional revenue.

Widespread EV adoption requires a utility market transformation, and as such, utilities must make progress on multiple fronts simultaneously and on an expedited timeline to meet their strategic EV objectives.

Utilities Require a Data Strategy to Realize Ambitious EV Goals - Utilities will achieve greater returns from their existing technology investments by harnessing more accurate and up-to-date EV insights from the energy use data they are already collecting.
LTIMindtree is working with a large utility to create an Enterprise Data Strategy Roadmap including EV Analytics being one of the initiatives. The utility has set an ambitious target to electrify more than 60% of its fleet by 2030, by:

- Enabling business fleet electrification.
- Supporting and scaling charging infrastructure.

### Charging Adequacy
- Support reliable and affordable charging infrastructure.
- Reduce range anxiety.

### Corporate Decarbonization
- Guiding corporate fleet electrification.
- Creating frameworks for faster deployment of viable charging infrastructure.

### Optimize Charging Loads
- Vehicle2Grid and Grid2Vehicle management of the charging and discharging behavior of EVs through reasonable strategies and advanced communication.
- AMI data-based grid planning.

### Customer Engagement
- Vehicle2Grid and Grid2Vehicle management of the charging and discharging behavior of EVs through reasonable strategies and advanced communication.
- AMI data-based grid planning.
**EV Owner**

- Type of Driver
- Trips per day
- Distance and duration
- Source and destination
- Departure time
- Min/Max dwell and moving

**Charger Provider**

- Charger availability
- Power Rating

**OEMs**

- Motor Power
- Battery Energy Capacity
- Weather Data
- Hourly Temperature
- Road Condition/Slope

**Utilities**

- Grid availability
- Load Demand
- Infrastructure investment
- Energy Market, ESS
- Renewables
- Net Metering
- Charging Strategy
- Customer Awareness
- Rate Design

**LTIMindtree** is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700 clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by 84,000+ talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — combines the industry-acclaimed strengths of erstwhile Larsen and Toubro Infotech and Mindtree in solving the most complex business challenges and delivering transformation at scale. For more information, please visit [https://www.ltimindtree.com/](https://www.ltimindtree.com/)

LTIMindtree Limited is a subsidiary of Larsen & Toubro Limited.