



**AGURCHAND MANMULL JAIN COLLEGE**

Meenambakkam, Chennai – 600 061



**The Department of Electronics and Communication Science**

**Naan Mudhalvan - Project Based Experiential Learning Program**

**COURSE - Data Analytics with Tableau**

**CLASS: FINAL YEAR B.Sc. ECS**

**Year: 2022-23**

**MENTOR: Dr.R.RAJ MOHAN**

**TEAM ID : NM2023TMID00401**

**TEAM SIZE : 4**

**TITLE OF THE PROJECT : Data Analytics with Tableau Visualization  
Tool for Electric Vehicle Charge and Range Analysis**

**Project – Team lead**

**Team lead ID - 0477DCDD0756A7BB6CF42EE38871C241**

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# **INTRODUCTION**

## **1.1 Overview**

It is a software application that provides graphical representations of data related to the charging behavior and range of electric vehicles. These tools can help electric vehicle owners, operators, planners, and policymakers to understand and optimize the performance of electric vehicles, while reducing costs and improving efficiency.

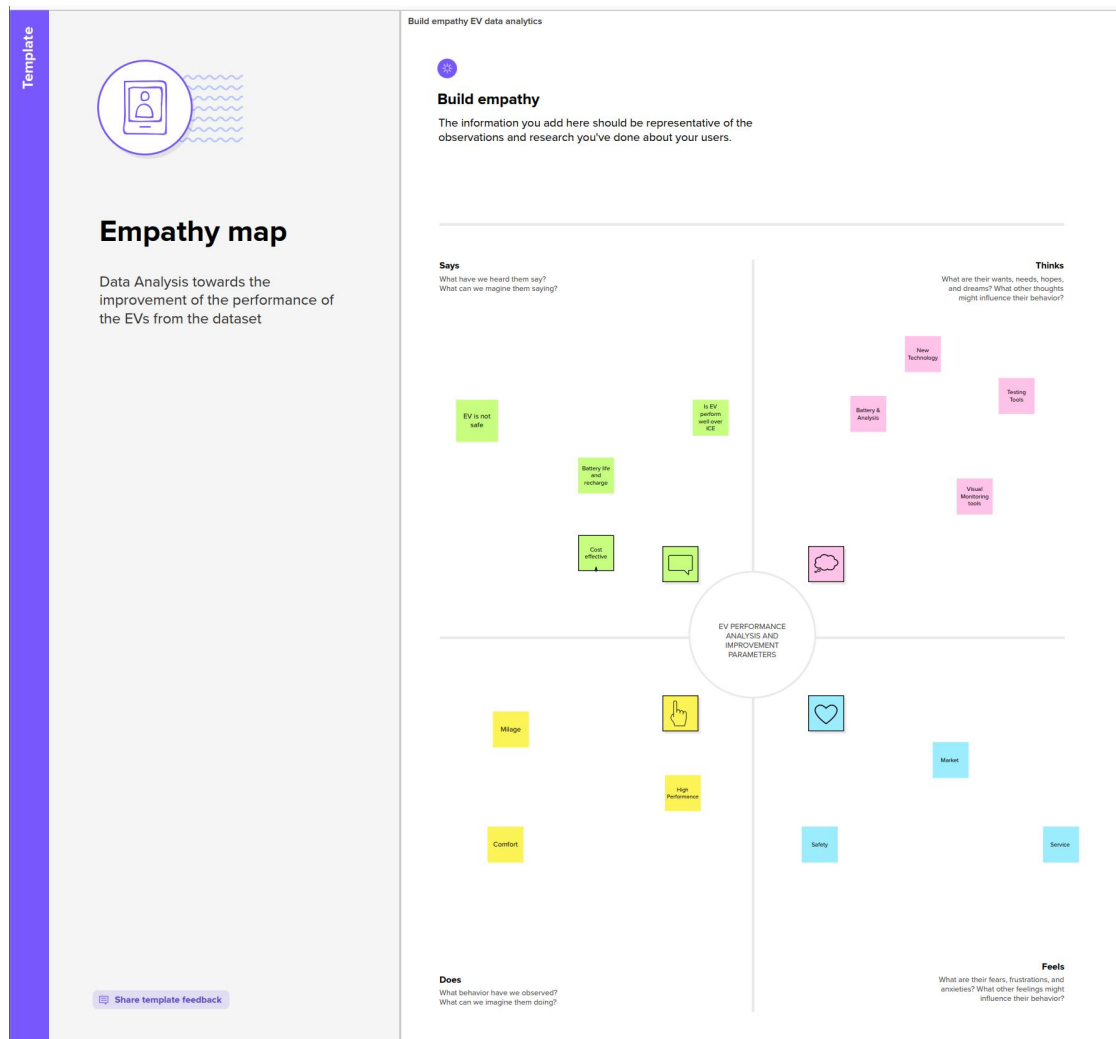
They are a valuable resource for anyone who owns or operates electric vehicles, or who is involved in planning and policymaking related to electric vehicle infrastructure. These tools provide insights into the charging behavior and range of electric vehicles that can help optimize performance, reduce costs, and improve efficiency.

## **1.2 Purpose**

It is to provide users with insights into the charging behavior and range of electric vehicles. By analyzing and visualizing data related to the charging and range characteristics of electric vehicles, these tools can help electric vehicle owners, operators, planners, and policymakers to optimize the performance of electric vehicles, reduce costs, and improve efficiency.

# PROBLEM DEFINITION & DESIGN THINKING

## 2.1 Empathy Map



## 2.2 Ideation & Brainstorming Map

## Template

### Brainstorm & idea prioritization

This project is powered to analysis the data of electric vehicle charge and range to overcome issues related to EVs

- 15 minutes to prepare
- 1 hour to collaborate
- 3-4 people recommended

#### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

#### Team gathering

**Deadline:** April 10th 2023  
**Team members:** Leonardo B, Nissa B, Manoj M & Vishnu Raj A

#### Set the goal

**Deadline:** April 10th 2023

#### Learn how to use the facilitation tools

Tableau, MySQL

Open article →

#### Define your problem statement

How to improve the performance and Efficiency of EVs by DA

5 minutes

**Problem**

Need to optimize the performance and efficiency of Electric car which involves analyzing and comparing performance across different parameters.

#### Key rules of brainstorming

To run an smooth and productive session

- Stay to topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

### 2 Brainstorm

Idea to find the solutions and grouping the work.

10 minutes

**TP**

You can collect a sticky note and be the panel leader to address team or mind drawing!

Leonard B	Nissa B	Manoj M	Vishnu Raj A
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content
Don't duplicate	Personalize content	Share to other participants	Share Board Content

Person 5 Person 6 Person 7 Person 8

### 3 Group ideas

How to go about the project to solve the statement and to find the final way to complete

20 minutes

**TP**

Idea for Analysis Team

Data set

Key parameters

Visual Parameters identification

Tools used in generation

### 4 Prioritize

HOW TO PRIORITIZE THE WORK PROGRESS

20 minutes

**Importance**

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

**Feasibility**

**TP**

Participants can use their cursor to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the M key on the keyboard.

Visual dash board details

Data and Tableau interlinking

Documentation

Key parameters

Tools and Data set

story creation

Toblu for dash board

## RESULT

Tableau - EV CARS NORM - LEANDER ECS AMIC DASH BOARD - tableau license expires in 13 days

File Data Server Window Help

Connections: ElectricCarData\_Norm (Microsoft Excel)

Sheets: Use Data Interpreter, ElectricCarData\_Norm

ElectricCarData\_Norm (ElectricCarData\_Norm)

Need more data? Drag tables here to relate them. [Learn more](#)

ElectricCarData\_Norm 14 fields 103 rows

Name	Field Name	Physical Table	Remote...
Brand	Brand	ElectricCarData_Norm	Brand
Model	Model	ElectricCarData_Norm	Model
Accel	Accel	ElectricCarData_Norm	Accel
Top Speed	Top Speed	ElectricCarData_Norm	Top Speed
Range	Range	ElectricCarData_Norm	Range
Efficiency	Efficiency	ElectricCarData_Norm	Efficiency
Fast Charge	Fast Charge	ElectricCarData_Norm	Fast Charge

Brand	Model	Accel	Top Speed	Range	Efficiency	Fast Charge	Rapid Charge	Power Train
Tesla	Model 3 Long Range Dual Motor	4.6 sec	233 km/h	450 km	161 Wh/km	940 km/h	Rapid charging possible	All Wheel D
Volkswagen	ID.3 Pure	10.0 sec	160 km/h	270 km	167 Wh/km	290 km/h	Rapid charging possible	Rear Wheel
Ford	Mustang Mach-E	4.7 sec	210 km/h	400 km	181 Wh/km	620 km/h	Rapid charging possible	All Wheel D
BMW	iX3	5.8 sec	180 km/h	360 km	206 Wh/km	550 km/h	Rapid charging possible	Rear Wheel
Honda	e	9.5 sec	145 km/h	170 km	168 Wh/km	100 km/h	Rapid charging possible	Rear Wheel
Lucid	Air	2.8 sec	250 km/h	680 km	180 Wh/km	620 km/h	Rapid charging possible	All Wheel D
Volkswagen	e-Golf	9.6 sec	150 km/h	150 km	168 Wh/km	220 km/h	Rapid charging possible	Front Wheel
Peugeot	e-208	8.1 sec	150 km/h	275 km	164 Wh/km	420 km/h	Rapid charging possible	Front Wheel
Tesla	Model 3 Standard Range Plus	5.6 sec	225 km/h	330 km	153 Wh/km	650 km/h	Rapid charging possible	Rear Wheel
Audi	Q4 e-tron	6.3 sec	180 km/h	400 km	193 Wh/km	540 km/h	Rapid charging possible	All Wheel D
Mercedes	EQS 450 4MATIC	5.1 sec	190 km/h	770 km	192 Wh/km	440 km/h	Rapid charging possible	All Wheel D

Data Source: TOP SPEED EVs, Efficiency Vs Model, EVs IN INDIA, Indian EV summary, Dashboard 1, Story 1, Story 2

Tableau - EV CARS NORM - LEANDER ECS AMIC DASH BOARD - Final two file - Tableau license expires in 6 days

File Data Server Window Help

Connections: EV\_CARS\_INDIA (Microsoft Excel), ElectricCarData\_Norm (Microsoft Excel)

EV\_CARS\_INDIA (EV\_CARS\_INDIA)

Need more data? Drag tables here to relate them. [Learn more](#)

EV\_CARS\_INDIA 13 fields 11 rows

Name	Field Name	Physical Table	Remote...
Brand Name	Brand Name	EV_CARS_INDIA	Brand...
Battery Capacity(kWh)	Battery Capacity(kWh)	EV_CARS_INDIA	Batter...
Acceleration(sec)	Acceleration(sec)	EV_CARS_INDIA	Accel...
TopSpeed(km/h)	TopSpeed(km/h)	EV_CARS_INDIA	TopSp...
Range(km)	Range(km)	EV_CARS_INDIA	Range...
Max Power(kW)	Max Power(kW)	EV_CARS_INDIA	Max P...
Max Torque(Nm)	Max Torque(Nm)	EV_CARS_INDIA	Max T...

Brand Name	Battery Capacity(kWh)	Acceleration(sec)	TopSpeed(km/h)	Range(km)	Max Power(kW)	Max Torque(Nm)	Transmission	No. of
Audi RS e-tron GT	93.4000	3.30000	250	480	500	830	Automatic	
Audi e-tron GT	93.4000	4.10000	245	500	523	630	Automatic	
Audi e-tron	95.0000	5.70000	200	484	300	664	Automatic	
Tata Nexon EV	30.2000	9.90000	180	312	96	245	Automatic	
Tata Tiger EV	26.0000	5.70000	120	306	55	170	Automatic	
Hyundai Kona Electric	39.2000	9.70000	155	452	103	395	Automatic	
Jaguar I-Pace	90.0000	4.80000	200	470	294	696	Automatic	
Mahindra eVerito	21.2000	11.20000	86	140	33	91	Automatic	
MG ZS EV	44.5000	8.50000	120	340	107	353	Automatic	
Mercedes Benz EQC	80.0000	5.10000	180	414	304	760	Automatic	
Mercedes EQS 450	100.0000	6.00000	200	770	100	760	Automatic	

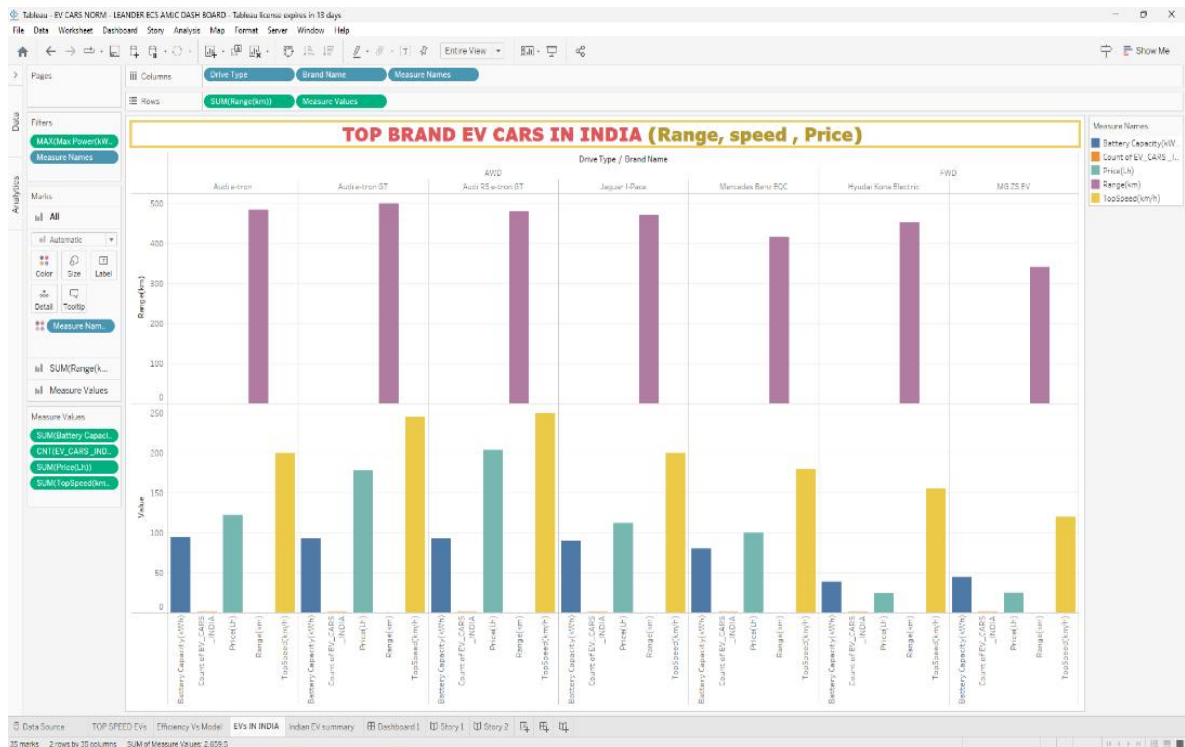
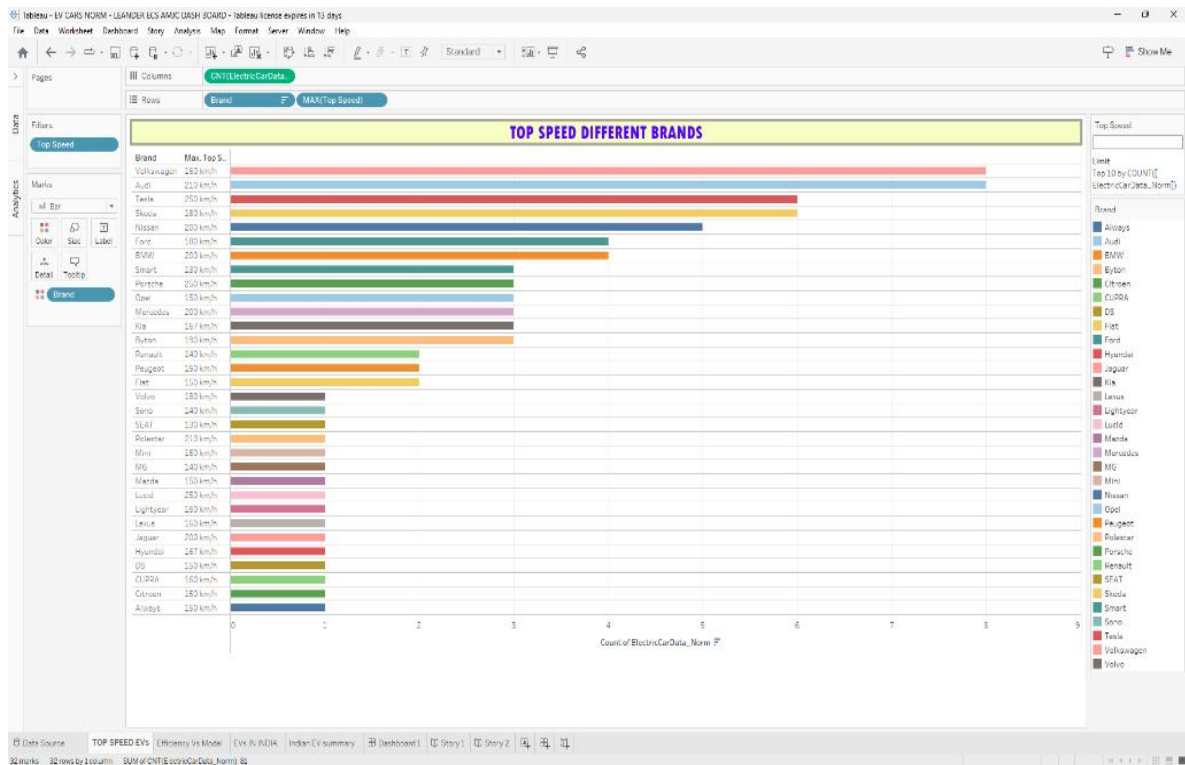
Data Source: Different cars in India, TOP SPEED EVs, Different car prices in India, Efficiency Vs Model, EVs IN INDIA, Indian EV summary, Dashboard EVs-Leander, Story EVs - Leander

## Data set used in this work

For simplify the work, we took only two datasets for

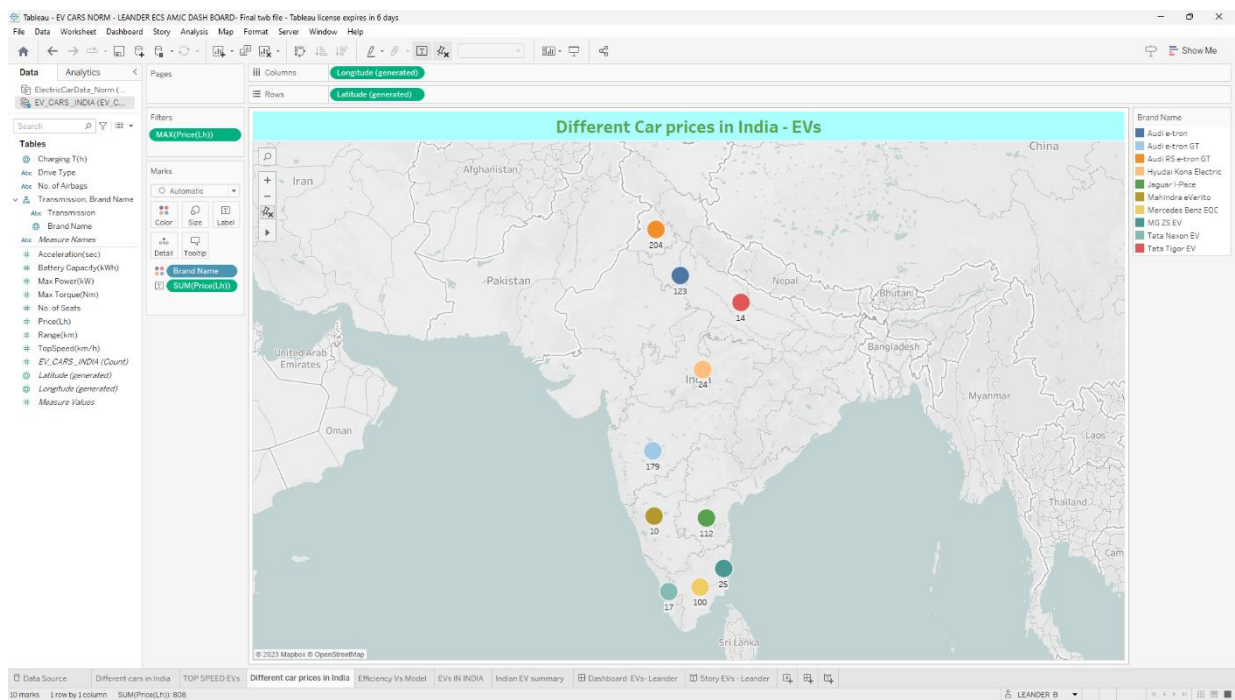
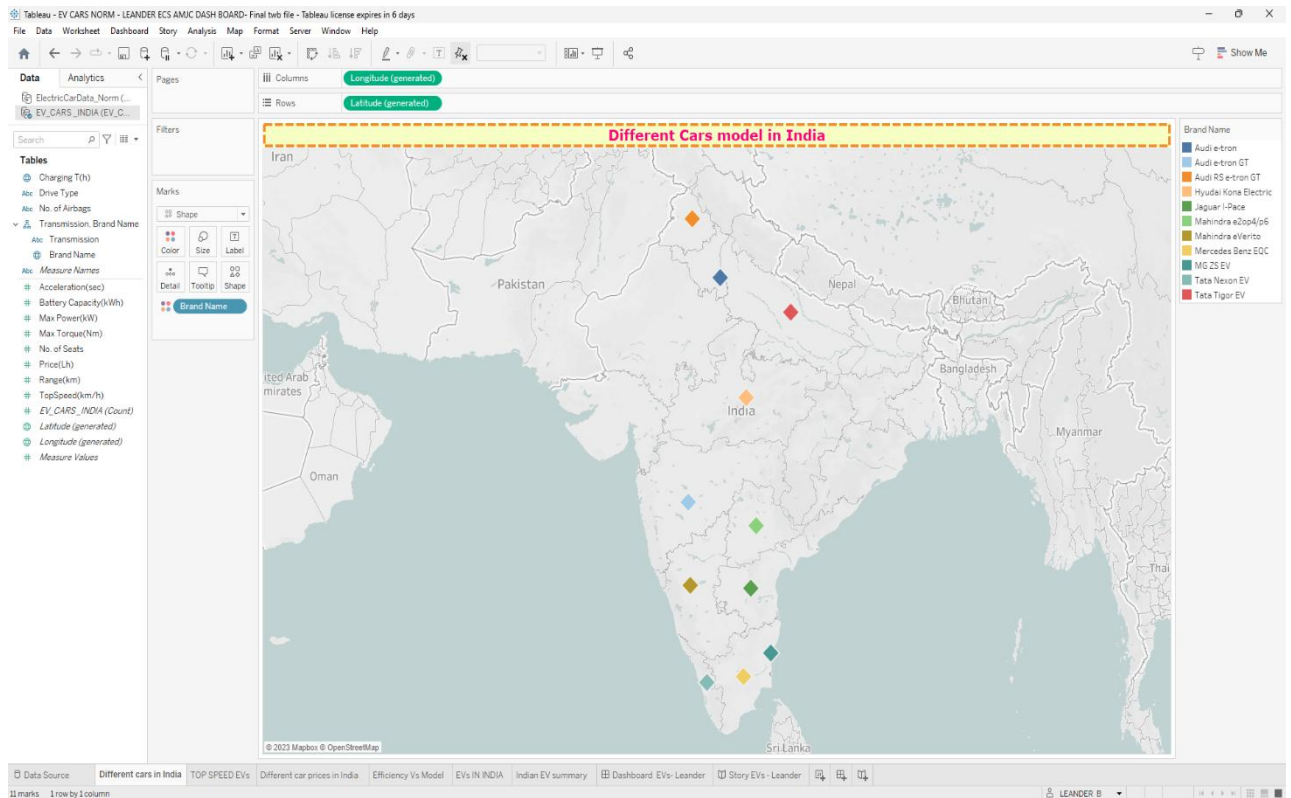
1. ElectricCarData\_Norm EXCEL WORKSHEET 1
2. EV\_CARS\_INDIA - EXCEL WORKSHEET 2

To upload it in tableau public – make the documents in to extract mode rather than a live on the top right corner of the Tableau sheet data source.



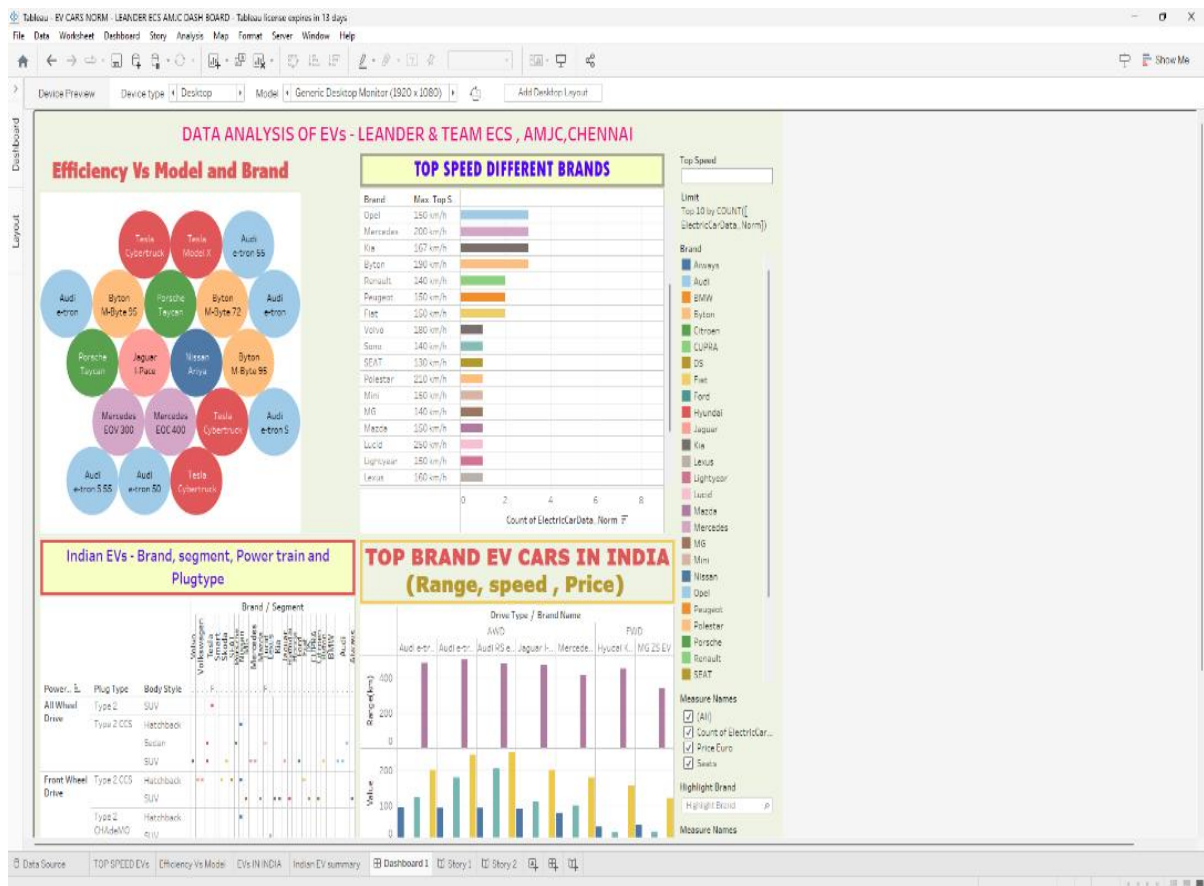








# DASH BOARD

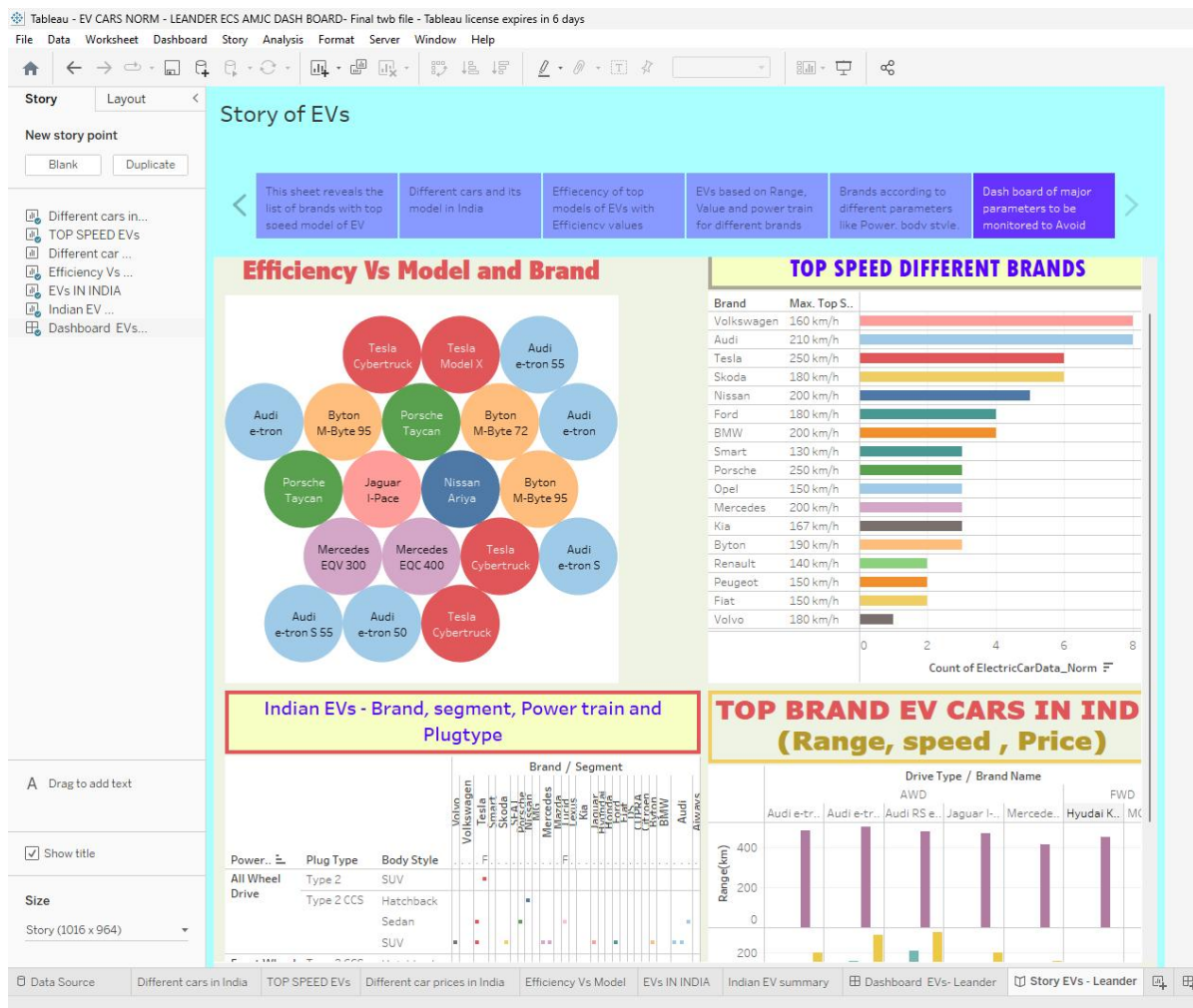


By using share option dashboard of tableau can be published in to Tableau public domain, link is shared – Leander account.

## TABLEAU PUBLIC LINK OF EV PROJECT

[https://public.tableau.com/views/EVCARS-DA-LEANDERTEAM-AMJC-ECS/DashboardEVs-Leander?:language=en-US&publish=yes&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/EVCARS-DA-LEANDERTEAM-AMJC-ECS/DashboardEVs-Leander?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link)

# STORY



To embed a Tableau dashboard or story into a Bootstrap webpage, follow these steps:

- In Tableau Desktop or Server, open the dashboard or story that you want to embed.
- Click the "Share" button in the top-right corner of the window.
- Select "Embed" from the dropdown menu.
- Copy the embed code to your clipboard.
- In your Bootstrap HTML file, create a new div element where you want to embed the Tableau content.
- Paste the embed code into the div element.
- Save your HTML file and preview the page in your browser to see the embedded Tableau content.

These are the basic steps for using Bootstrap in your web development project.

## **ADVANTAGES & DISADVANTAGES**

### **Advantages:**

Data quality: Visualization tools rely on accurate and reliable data to provide meaningful insights. If the data is incomplete or inaccurate, the visualizations may be misleading or even incorrect.

Limited scope: Visualization tools can only analyze the data that is available to them. If the data is incomplete or limited in scope, the visualizations may not provide a complete picture of the vehicle's charging and range characteristics.

Technical limitations: Visualization tools may be limited by the technical capabilities of the hardware and software used to create them.

Cost: Some visualization tools may be expensive to use or require a subscription fee, which may not be feasible for all users. This can limit the accessibility of these tools, particularly for individuals or organizations with limited budgets.

### **Disadvantage:**

Data quality: Visualization tools rely on accurate and reliable data to provide meaningful insights.

Limited scope: Visualization tools can only analyze the data that is available to them.

Technical limitations: Visualization tools may be limited by the technical capabilities of the hardware and software used to create them.

Cost: Some visualization tools may be expensive to use or require a subscription fee, which may not be feasible for all users. This can have limited only.

## **APPLICATIONS**

Optimizing charging behavior: Visualization tools can help electric vehicle owners and operators understand the charging behavior of their vehicles, allowing them to optimize their charging strategy to minimize costs and maximize convenience.

Analyzing range: Visualization tools can analyze the range of an electric vehicle under different conditions, such as temperature, driving style, and terrain. This information can help drivers plan their trips more effectively and make informed decisions about when and where to charge their vehicles.

Identifying charging infrastructure needs: Visualization tools can help identify areas with insufficient charging infrastructure, allowing planners and policymakers to make informed decisions about where to install new charging stations.

Evaluating electric vehicle performance: Visualization tools can help evaluate the performance of different electric vehicle models and compare them against each other. This can help consumers make informed decisions when purchasing an electric vehicle.

Monitoring fleet performance: Visualization tools can be used to monitor the performance of electric vehicle fleets, allowing fleet managers to optimize charging and route planning to minimize costs and improve efficiency.

## **CONCLUSION**

In conclusion, visualization tools for electric vehicle charge and range analysis are a valuable resource for electric vehicle owners, operators, planners, and policymakers. These tools can provide insights into charging behavior, range, and other factors that can help optimize performance, reduce costs, and improve efficiency. While there are some limitations and challenges associated with these tools, the future scope of visualization tools for electric vehicle charge and range analysis is promising, with potential developments in areas such as smart grids, predictive analytics, augmented reality, and autonomous driving technology. As the use of electric vehicles continues to grow, visualization tools will become an increasingly important tool for understanding and optimizing the charging and range characteristics of these vehicles.

## **FUTURE SCOPE**

Integration with smart grids: As electric vehicle charging infrastructure becomes more integrated with smart grids, visualization tools may be able to provide real-time data on energy supply and demand, allowing users to optimize their charging behavior to reduce costs and minimize their carbon footprint.

Integration with predictive analytics: As predictive analytics become more advanced, visualization tools may be able to provide more accurate predictions of range and charging behavior, allowing users to plan their trips more effectively and avoid running out of battery.

Integration with augmented reality: As augmented reality technology becomes more widespread, visualization tools may be able to provide users with real-time information on charging station availability, location, and pricing, making it easier to find and use charging infrastructure.

Integration with autonomous driving technology: As autonomous driving technology becomes more advanced, visualization tools may be able to provide real-time information on charging station availability and location, allowing self-driving electric vehicles to optimize their charging behavior without human intervention.

## APPENDIX

### A. Source Code

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-scale=1.0" name="viewport">

  <title>Electric Cars Analytics</title>
  <meta content="" name="description">

  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link
href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,6
00i,700,700i|Nunito:300,300i,400,400i,600,600i,700,700i|Poppins:300,300i,400,40
0i,500,500i,600,600i,700,700i" rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css"
rel="stylesheet">
  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">

  <!-- Template Main CSS File -->
  <link href="assets/css/style.css" rel="stylesheet">

  <!-- =====
  * Template Name: FlexStart - v1.12.0
  * Template URL: https://bootstrapmade.com/flexstart-bootstrap-startup-
template/
  * Author: BootstrapMade.com
  * License: https://bootstrapmade.com/license/
  =====>
```



```

===== -->
</head>

<body>

  <!-- ===== Header ===== -->
  <header id="header" class="header fixed-top">
    <div class="container-fluid container-xl d-flex align-items-center justify-
content-between">

      <a href="index.html" class="logo d-flex align-items-center">
        
        <span>E-CarStart</span>
      </a>

      <nav id="navbar" class="navbar">
        <ul>
          <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
          <li><a class="nav-link scrollto" href="#about">About</a></li>
          <li><a class="nav-link scrollto" href="#values">Dashboard</a></li>
          <li><a class="nav-link scrollto" href="#services">Story</a></li>
          <li><a class="nav-link scrollto" href="#team">Team</a></li>
          <li><a class="nav-link scrollto" href="#contact">Contact</a></li>
          <li><a class="getstarted scrollto" href="#about">Get Started</a></li>
        </ul>
        <i class="bi bi-list mobile-nav-toggle"></i>
      </nav><!-- .navbar -->

    </div>
  </header><!-- End Header -->

  <!-- ===== Hero Section ===== -->
  <section id="hero" class="hero d-flex align-items-center">

    <div class="container">
      <div class="row">
        <div class="col-lg-6 d-flex flex-column justify-content-center">
          <h1 data-aos="fade-up">We offer modern Analytics solutions for
Electric Vehicles</h1>

          <div data-aos="fade-up" data-aos-delay="600">
            <div class="text-center text-lg-start">
              <a href="#about" class="btn-get-started scrollto d-inline-flex
align-items-center justify-content-center align-self-center">
                <span>Get Started</span>
                <i class="bi bi-arrow-right"></i>
              </a>
            </div>
          </div>
        </div>
      </div>
    </div>
  </section>

```

```

        </div>
    </div>
    <div class="col-lg-6 hero-img" data-aos="zoom-out" data-aos-
delay="200">
        
    </div>
</div>
</div>

</section><!-- End Hero -->

<main id="main">
    <!-- ===== About Section ===== -->
    <section id="about" class="about">

        <div class="container" data-aos="fade-up">
            <div class="row gx-0">

                <div class="col-lg-6 d-flex flex-column justify-content-center" data-
aos="fade-up" data-aos-delay="200">
                    <div class="content">
                        <h3>E-Car Start</h3>
                        <h2>E-Cart Start is a complete analytics tool for electric
vehicles all over the world.</h2>
                        <p>
                            The Electric Vehicle (EV) is not new, but it has been receiving
significantly more attention in recent years. Advances in both EV analytics and
battery technologies have led to increased automotive market share. The modern
mechatronic vehicle marries electrical storage and propulsion systems with
electronic sensors, controls, and actuators, integrated closely with software,
secure data transfer, and data analysis, to form a comprehensive transportation
solution. Advances in all these areas have contributed to the overall rise of
EV's, but the common thread that runs through all these elements is data
analytics.
                        </p>
                        <div class="text-center text-lg-start">
                            <a href="#" class="btn-read-more d-inline-flex align-items-
center justify-content-center align-self-center">
                                <span>Read More</span>
                                <i class="bi bi-arrow-right"></i>
                            </a>
                        </div>
                    </div>
                </div>
                <div class="col-lg-6 d-flex align-items-center" data-aos="zoom-out"
data-aos-delay="200">
                    
                </div>
            </div>
        </div>
    </section>
</main>

```

```

        </div>

    </div>
</div>

</section><!-- End About Section -->

<!-- ===== Values Section ===== -->
<section id="values" class="values">

    <div class="container" data-aos="fade-up">

        <header class="section-header">
            <h2>Dashboard</h2>
            <p>E-Car Start Analytics Dashboard</p>
        </header>

        <div class="row">

            <div class='tableauPlaceholder' id='viz1682142847291' style='position:
relative'><noscript><a href='#'><img alt='DATA ANALYSIS OF EVs - LEANDER &
TEAM ECS , AMJC,CHENNAI '
src='https://public.tableau.com/static/images/EV/EVCARS
NORM-LEANDERECSAMJCDASHBOARD-Finaltwbforupload/DashboardEVs-
Leander/1_rss.png' style='border: none' /></a></noscript><object
class='tableauViz' style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version'
value='3' /> <param name='site_root' value='' /><param name='name'
value='EVCARSNORM-LEANDERECSAMJCDASHBOARD-Finaltwbforupload/DashboardEVs-
Leander' /><param name='tabs' value='no' /><param name='toolbar' value='yes'
/><param name='static_image'
value='https://public.tableau.com/static/images/EV/EVCA
RSNORM-LEANDERECSAMJCDASHBOARD-Finaltwbforupload/DashboardEVs-
Leander/1.png' /> <param name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param name='display_spinner'
value='yes' /><param name='display_overlay' value='yes' /><param
name='display_count' value='yes' /><param name='language' value='en-US'
/><param name='filter' value='publish=yes'
/></object></div>
            <script
type='text/javascript'>
                var divElement =
document.getElementById('viz1682142847291');
                var vizElement
= divElement.getElementsByTagName('object')[0];
                if
( divElement.offsetWidth > 800 )
{ vizElement.style.width='1200px';vizElement.style.height='1027px';} else if
( divElement.offsetWidth > 500 )
{ vizElement.style.width='1200px';vizElement.style.height='1027px';} else
{ vizElement.style.width='100%';vizElement.style.height='1577px';}
                var scriptElement =

```

```

document.createElement('script');                                scriptElement.src =
'https://public.tableau.com/javascripts/api/viz_v1.js';          vizE
lement.parentNode.insertBefore(scriptElement,
vizElement);                                                    </script>
    </div>

    </div>

</section><!-- End Values Section -->

<!-- ===== Features Section ===== -->
<section id="features" class="features">

    <div class="container" data-aos="fade-up">

        <header class="section-header">
            <h2>Features</h2>
            <p>There are many different features of our project</p>
        </header>

        <div class="row">

            <div class="col-lg-6">
                
            </div>

            <div class="col-lg-6 mt-5 mt-lg-0 d-flex">
                <div class="row align-self-center gy-4">

                    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="200">
                        <div class="feature-box d-flex align-items-center">
                            <i class="bi bi-check"></i>
                            <h3>Analyse the current stats</h3>
                        </div>
                    </div>

                    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="300">
                        <div class="feature-box d-flex align-items-center">
                            <i class="bi bi-check"></i>
                            <h3>Get to know EV more</h3>
                        </div>
                    </div>

                    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="400">
                        <div class="feature-box d-flex align-items-center">
                            <i class="bi bi-check"></i>
                            <h3>Know about Charging Stations</h3>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </div>

```

```

    </div>

    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="500">
      <div class="feature-box d-flex align-items-center">
        <i class="bi bi-check"></i>
        <h3>Top performing Brands</h3>
      </div>
    </div>

    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="600">
      <div class="feature-box d-flex align-items-center">
        <i class="bi bi-check"></i>
        <h3>different brands in India</h3>
      </div>
    </div>

    <div class="col-md-6" data-aos="zoom-out" data-aos-delay="700">
      <div class="feature-box d-flex align-items-center">
        <i class="bi bi-check"></i>
        <h3>different brands Globally</h3>
      </div>
    </div>

  </div>
</div>

</div> <!-- / row -->

<!-- Feature Tabs -->
<div class="row feture-tabs" data-aos="fade-up">
  <div class="col-lg-6">
    <h3>Overview of Electric Vehicle Sector</h3>

    <!-- Tabs -->
    <ul class="nav nav-pills mb-3">
      <li>
        <a class="nav-link active" data-bs-toggle="pill"
href="#tab1">Overview</a>
      </li>
      <li>
        <a class="nav-link active" data-bs-toggle="pill"
href="#tab2">Pricing</a>
      </li>
    </ul><!-- End Tabs -->

    <!-- Tab Content -->
    <div class="tab-content">

```

```

        <div class="tab-pane fade show active" id="tab1">
            <p>The supply of fossil fuels is constantly decreasing. The
situation is very alarming. It is time for the world to slowly adapt to
electric vehicles. </p>
            <div class="d-flex align-items-center mb-2">
                <i class="bi bi-check2"></i>
                <h4>A lot of change needs to happen</h4>
            </div>
            <p>Major carmakers like Tesla and Porsche manufacture many
electric vehicles. </p>
            <div class="d-flex align-items-center mb-2">
                <i class="bi bi-check2"></i>
                <h4> The improvement of battery technology in recent years
has led to the higher popularity of electric vehicles.</h4>
            </div>
            <p>Buying an electric vehicle can be a great choice for
consumers. The drive quality, low noise levels, and convenience are really
great.</p>
        </div><!-- End Tab 1 Content -->

        <div class="tab-pane fade show" id="tab2">
            <p> In the United States, one year of driving a petrol car can
cost from 1500 USD to 2500 USD.</p>
            <div class="d-flex align-items-center mb-2">
                <i class="bi bi-check2"></i>
                <h4>On the other hand, the driving cost of Electric Vehicles
is 500 USD. Electric cars are more preferable.</h4>
            </div>
            <p>The maintenance cost of electric vehicles is also very low.
They are economical to maintain.</p>
            <div class="d-flex align-items-center mb-2">
                <i class="bi bi-check2"></i>
                <h4>The energy conversion efficiency of electric vehicles is
also high.</h4>
            </div>
            <p>Electric vehicles use 60-70% of electrical energy. On the
other hand, vehicles based on internal combustion engines have an efficiency of
18-22% only.The energy cost of manufacturing an electric vehicle is also very
high, but considering everything and the fact that charging electric vehicles
is very cheap, EVs are a great option. Manufacturing batteries is an important
task in the production of Electric vehicles.</p>
        </div><!-- End Tab 2 Content -->

    </div>

</div>

<div class="col-lg-6">

```

```

        
    </div>

</div><!-- End Feature Tabs -->

</div>

</section><!-- End Features Section -->

<!-- ===== Services Section ===== -->
<section id="services" class="services">

    <div class="container" data-aos="fade-up">

        <header class="section-header">
            <h2>Story</h2>
            <p>Electric vehicles Analytics Story</p>
        </header>

        <div class="row gy-4">

            <div class='tableauPlaceholder' id='viz1682143046718' style='position:
relative'><noscript><a href='#'><img alt='Story of EVs '
src='https://public.tableau.com/static/images/EV/EVCARS
NORM-LEANDERECSAMJCDASHBOARD-Finaltwbfile/StoryEVs-Leander/1_rss.png'
style='border: none' /></a></noscript><object
class='tableauViz' style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed_code_version'
value='3' /> <param name='site_root' value='' /><param name='name'
value='EVCARSNORM-LEANDERECSAMJCDASHBOARD-Finaltwbfile/StoryEVs-Leander'
/><param name='tabs' value='no' /><param name='toolbar' value='yes' /><param
name='static_image'
value='https://public.tableau.com/static/images/EV/EVCARS
NORM-LEANDERECSAMJCDASHBOARD-Finaltwbfile/StoryEVs-Leander/1.png' />
<param name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param name='display_spinner'
value='yes' /><param name='display_overlay' value='yes' /><param
name='display_count' value='yes' /><param name='language' value='en-US'
/></object></div>
            <script
type='text/javascript'>
                var divElement =
document.getElementById('viz1682143046718');
                var vizElement
=
divElement.getElementsByTagName('object')[0];
                vizElement.sty
le.width='1016px';vizElement.style.height='991px';
                var
scriptElement =

```



```
document.createElement('script');
scriptElement.src =
'https://public.tableau.com/javascripts/api/viz_v1.js';
vizelement.parentNode.insertBefore(scriptElement,
vizElement);
</script>

</div>

</div>

</section><!-- End Services Section -->

<!-- ===== Testimonials Section ===== -->
<section id="testimonials" class="testimonials">

<div class="container" data-aos="fade-up">

<header class="section-header">
<h2>Testimonials</h2>
<p>What they are saying about us</p>
</header>

<div class="testimonials-slider swiper" data-aos="fade-up" data-aos-
delay="200">
<div class="swiper-wrapper">

<div class="swiper-slide">
<div class="testimonial-item">
<div class="stars">
<i class="bi bi-star-fill"></i><i class="bi bi-star-
fill"></i><i class="bi bi-star-fill"></i><i class="bi bi-star-fill"></i><i
class="bi bi-star-fill"></i>
</div>
<p>
Proin iaculis purus consequat sem cure digni ssim donec
porttitora entum suscipit rhoncus. Accusantium quam, ultricies eget id, aliquam
eget nibh et. Maecen aliquam, risus at semper.
</p>
<div class="profile mt-auto">

<h3>Saul Goodman</h3>
<h4>CEO & Founder</h4>
</div>
</div>
</div><!-- End testimonial item -->

<div class="swiper-slide">
<div class="testimonial-item">
```

```

        <div class="stars">
            <i class="bi bi-star-fill"></i><i class="bi bi-star-
fill"></i><i class="bi bi-star-fill"></i><i class="bi bi-star-fill"></i><i
class="bi bi-star-fill"></i>
        </div>
        <p>
            Export tempor illum tamen malis malis eram quae irure esse
labore quem cillum quid cillum eram malis quorum velit fore eram velit sunt
aliqua noster fugiat irure amet legam anim culpa.
        </p>
        <div class="profile mt-auto">
            
            <h3>Sara Wilsson</h3>
            <h4>Designer</h4>
        </div>
    </div>
</div><!-- End testimonial item -->

<div class="swiper-slide">
    <div class="testimonial-item">
        <div class="stars">
            <i class="bi bi-star-fill"></i><i class="bi bi-star-
fill"></i><i class="bi bi-star-fill"></i><i class="bi bi-star-fill"></i><i
class="bi bi-star-fill"></i>
        </div>
        <p>
            Enim nisi quem export duis labore cillum quae magna enim sint
quorum nulla quem veniam duis minim tempor labore quem eram duis noster aute
amet eram fore quis sint minim.
        </p>
        <div class="profile mt-auto">
            
            <h3>Jena Karlis</h3>
            <h4>Store Owner</h4>
        </div>
    </div>
</div><!-- End testimonial item -->

<div class="swiper-slide">
    <div class="testimonial-item">
        <div class="stars">
            <i class="bi bi-star-fill"></i><i class="bi bi-star-
fill"></i><i class="bi bi-star-fill"></i><i class="bi bi-star-fill"></i><i
class="bi bi-star-fill"></i>
        </div>
        <p>

```

Fugiat enim eram quae cillum dolore dolor amet nulla culpa multos export minim fugiat minim velit minim dolor enim duis veniam ipsum anim magna sunt elit fore quem dolore labore illum veniam.

```
</p>
<div class="profile mt-auto">
  
  <h3>Matt Brandon</h3>
  <h4>Freelancer</h4>
</div>
</div>
</div><!-- End testimonial item -->

<div class="swiper-slide">
  <div class="testimonial-item">
    <div class="stars">
      <i class="bi bi-star-fill"></i><i class="bi bi-star-
fill"></i><i class="bi bi-star-fill"></i><i class="bi bi-star-fill"></i><i
class="bi bi-star-fill"></i>
    </div>
    <p>
      Quis quorum aliqua sint quem legam fore sunt eram irure
aliqua veniam tempor noster veniam enim culpa labore duis sunt culpa nulla
illum cillum fugiat legam esse veniam culpa fore nisi cillum quid.
    </p>
    <div class="profile mt-auto">
      
      <h3>John Larson</h3>
      <h4>Entrepreneur</h4>
    </div>
  </div>
</div><!-- End testimonial item -->

</div>
<div class="swiper-pagination"></div>
</div>

</div>
```

```
</section><!-- End Testimonials Section -->
```

```
<!-- ===== Team Section ===== -->
```

```
<section id="team" class="team">
```

```
  <div class="container" data-aos="fade-up">
```

```
    <header class="section-header">
```

```

        <h2>Team</h2>
        <p>Our hard working team</p>
    </header>

    <div class="row gy-4">

        <div class="col-lg-3 col-md-6 d-flex align-items-stretch" data-
aos="fade-up" data-aos-delay="100">
            <div class="member">
                <div class="member-img">
                    
                    <div class="social">
                        <a href=""><i class="bi bi-twitter"></i></a>
                        <a href=""><i class="bi bi-facebook"></i></a>
                        <a href=""><i class="bi bi-instagram"></i></a>
                        <a href=""><i class="bi bi-linkedin"></i></a>
                    </div>
                </div>
                <div class="member-info">
                    <h4>Walter White</h4>
                    <span>Chief Executive Officer</span>
                    <p>Velit aut quia fugit et et. Dolorum ea voluptate vel tempore
tenetur ipsa quae aut. Ipsum exercitationem iure minima enim corporis et
voluptate.</p>
                </div>
            </div>

            <div class="col-lg-3 col-md-6 d-flex align-items-stretch" data-
aos="fade-up" data-aos-delay="200">
                <div class="member">
                    <div class="member-img">
                        
                        <div class="social">
                            <a href=""><i class="bi bi-twitter"></i></a>
                            <a href=""><i class="bi bi-facebook"></i></a>
                            <a href=""><i class="bi bi-instagram"></i></a>
                            <a href=""><i class="bi bi-linkedin"></i></a>
                        </div>
                    </div>
                    <div class="member-info">
                        <h4>Sarah Jhonson</h4>
                        <span>Product Manager</span>
                        <p>Quo esse repellendus quia id. Est eum et accusantium
pariatur fugit nihil minima suscipit corporis. Voluptate sed quas reiciendis
animi neque sapiente.</p>
                    </div>
                </div>
            </div>

```

```

    </div>

    <div class="col-lg-3 col-md-6 d-flex align-items-stretch" data-
aos="fade-up" data-aos-delay="300">
      <div class="member">
        <div class="member-img">
          
          <div class="social">
            <a href=""><i class="bi bi-twitter"></i></a>
            <a href=""><i class="bi bi-facebook"></i></a>
            <a href=""><i class="bi bi-instagram"></i></a>
            <a href=""><i class="bi bi-linkedin"></i></a>
          </div>
        </div>
        <div class="member-info">
          <h4>William Anderson</h4>
          <span>CTO</span>
          <p>Vero omnis enim consequatur. Voluptas consectetur unde qui
molestiae deserunt. Voluptates enim aut architecto porro aspernatur molestiae
modi.</p>
        </div>
      </div>
    </div>

    <div class="col-lg-3 col-md-6 d-flex align-items-stretch" data-
aos="fade-up" data-aos-delay="400">
      <div class="member">
        <div class="member-img">
          
          <div class="social">
            <a href=""><i class="bi bi-twitter"></i></a>
            <a href=""><i class="bi bi-facebook"></i></a>
            <a href=""><i class="bi bi-instagram"></i></a>
            <a href=""><i class="bi bi-linkedin"></i></a>
          </div>
        </div>
        <div class="member-info">
          <h4>Amanda Jepson</h4>
          <span>Accountant</span>
          <p>Rerum voluptate non adipisci animi distinctio et deserunt
amet voluptas. Quia aut aliquid doloreque ut possimus ipsum officia.</p>
        </div>
      </div>
    </div>
  </div>
</section><!-- End Team Section -->

```

```

<!-- ===== Contact Section ===== -->
<section id="contact" class="contact">
  <div class="container" data-aos="fade-up">

    <header class="section-header">
      <h2>Contact</h2>
      <p>Contact Us</p>
    </header>

    <div class="row gy-4">

      <div class="col-lg-6">

        <div class="row gy-4">
          <div class="col-md-6">
            <div class="info-box">
              <i class="bi bi-geo-alt"></i>
              <h3>Address</h3>
              <p>The Smartbridge<br>Hyderabad, Telangana</p>
            </div>
          </div>
          <div class="col-md-6">
            <div class="info-box">
              <i class="bi bi-telephone"></i>
              <h3>Call Us</h3>
              <p>+1 5589 55488 55<br>+1 6678 254445 41</p>
            </div>
          </div>
          <div class="col-md-6">
            <div class="info-box">
              <i class="bi bi-envelope"></i>
              <h3>Email Us</h3>
              <p>info@example.com<br>contact@example.com</p>
            </div>
          </div>
          <div class="col-md-6">
            <div class="info-box">
              <i class="bi bi-clock"></i>
              <h3>Open Hours</h3>
              <p>Monday - Friday<br>9:00AM - 07:00PM</p>
            </div>
          </div>
        </div>

      </div>

      <div class="col-lg-6">
        <div class="mapouter">

```

```

        <div class="gmap_canvas">
            <iframe
src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d3806.4996128125663!2
d78.357789414877!3d17.435785388049602!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3
m3!1m2!1s0x3bcb93ccf4ea7cc1%3A0xebff7843c5e1e33f!2sStacknexus%20Technologies%20
Pvt%20Ltd!5e0!3m2!1sen!2sin!4v1671649820075!5m2!1sen!2sin" width="600"
height="450" style="border:0;" allowfullscreen="" loading="lazy"
referrerpolicy="no-referrer-when-downgrade"></iframe>
            </div>
            <style>.mapouter{position:relative;text-
align:right;width:600px;height:400px;}.gmap_canvas
{overflow:hidden;background:none!important;width:600px;height:400px;}.gmap_ifra
me {width:600px!important;height:400px!important;}</style>
        </div>

    </div>

</div>

</div>

</section><!-- End Contact Section -->

</main><!-- End #main -->

<!-- ===== Footer ===== -->
<footer id="footer" class="footer">

    <div class="footer-top">
        <div class="container">
            <div class="row gy-4">
                <div class="col-lg-5 col-md-12 footer-info">
                    <a href="index.html" class="logo d-flex align-items-center">
                        
                        <span>E-CarStart</span>
                    </a>
                    <p>We offer modern Analytics solutions for Electric Vehicles.</p>
                    <div class="social-links mt-3">
                        <a href="#" class="twitter"><i class="bi bi-twitter"></i></a>
                        <a href="#" class="facebook"><i class="bi bi-facebook"></i></a>
                        <a href="#" class="instagram"><i class="bi bi-instagram"></i></a>
                        <a href="#" class="linkedin"><i class="bi bi-linkedin"></i></a>
                    </div>
                </div>

                <div class="col-lg-2 col-6 footer-links">
                    <h4>Useful Links</h4>
                    <ul>

```



```

        <li><i class="bi bi-chevron-right"></i> <a href="#">Home</a></li>
        <li><i class="bi bi-chevron-right"></i> <a href="#">About
us</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="#">Services</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="#">Dashboard</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="#">Story</a></li>
    </ul>
</div>
<div class="col-lg-2 col-6 footer-links">
    <h4>Our Services</h4>
    <ul>
        <li><i class="bi bi-chevron-right"></i> <a
href="https://www.thesmartbridge.com/">Web Design</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="https://www.thesmartbridge.com/">Web Development</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="https://www.thesmartbridge.com/">Product Management</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="https://www.thesmartbridge.com/">Marketing</a></li>
        <li><i class="bi bi-chevron-right"></i> <a
href="https://www.thesmartbridge.com/">Graphic Design</a></li>
    </ul>
</div>

<div class="col-lg-3 col-md-12 footer-contact text-center text-md-
start">
    <h4>Contact Us</h4>
    <p>
        The Smartbridge <br>
        Hyderabad<br>
        Telangana<br><br>
        <strong>Phone:</strong> +1 5589 55488 55<br>
        <strong>Email:</strong> info@example.com<br>
    </p>

</div>

</div>
</div>
</div>

<div class="container">
    <div class="copyright">
        &copy; Copyright <strong><span>Smartbridge</span></strong>. All Rights
Reserved

```

```
        </div>
    </div>
</footer><!-- End Footer -->

    <a href="#" class="back-to-top d-flex align-items-center justify-content-center"><i class="bi bi-arrow-up-short"></i></a>

<!-- Vendor JS Files -->
<script src="assets/vendor/purecounter/purecounter_vanilla.js"></script>
<script src="assets/vendor/aos/aos.js"></script>
<script src="assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
<script src="assets/vendor/glightbox/js/glightbox.min.js"></script>
<script src="assets/vendor/isotope-layout/isotope.pkgd.min.js"></script>
<script src="assets/vendor/swiper/swiper-bundle.min.js"></script>
<script src="assets/vendor/php-email-form/validate.js"></script>

<!-- Template Main JS File -->
<script src="assets/js/main.js"></script>

</body>

</html>
```