Functional and Performance Testing Document

Field	Details
Project Name	Visualization Tool for Electric Vehicle Charge and Range Analysis
Date	27th June 2025
Team ID	LTVIP2025TMID49433

1. Test Environment:

- **Browser**: Google Chrome, Microsoft Edge, Firefox
- **Device**: Windows 11 laptop (8GB RAM, Core i5)
- **Network**: 100 Mbps internet connection
- **Platform**: Tableau Public

2. Functional Testing:

Test Case ID	Functionality	Test Description	Expected Result	Actual Result	Status
TC-01	Data Filter – Range	Select a range filter from the dashboard	Only EVs within selected range appear	Working as expected	Pass
TC-02	Data Filter – Price	Filter by price bracket (Lakhs or Euro)	Dashboard updates dynamically	Working as expected	Pass
TC-03	Charging Station Map	Clickable charger locations on the map	Tooltip with address and charger type shown	Working as expected	Pass
TC-04	Chart Interactivity	Hover or click on chart data points	Relevant details or drill-down displayed	Working as expected	Pass
TC-05	Dashboard Navigation	Navigate across dashboard tabs/story	User is taken to the appropriate visual	Working as expected	Pass
TC-06	Web Embedding	Embedded dashboard in web app	Loads correctly, fully interactive	Working as expected	Pass
TC-07	Data Refresh	Upload modified data and reload dashboard	Dashboard reflects updated values	Working as expected	Pass

3. Performance Testing

3.1 Test Environment

- **Browser**: Google Chrome, Microsoft Edge, Firefox
- **Device**: Windows 11 laptop (8GB RAM, Core i5)
- **Network**: 100 Mbps internet connection
- **Platform**: Tableau Public

3.2 Metrics Tested

Metric	Description	Threshold	Actual	Status
Load Time	Time to load entire dashboard	< 5 seconds	3.2 seconds	Pass
Filter Response Time	Time taken to apply filters	< 2 seconds	1.4 seconds	Pass
Page Switch Time	Time to switch between dashboard/story tabs	< 2 seconds	1.7 seconds	Pass
Web Embedding Delay	Time to fully load the dashboard on website	< 6 seconds	4.3 seconds	Pass
Cross-filter Accuracy	Accuracy when multiple filters are applied	100% accurate	No data mismatch	Pass

4. Tools Used

- Tableau Public (for interactive dashboards)
- Google Sheets/Excel (for test data validation)
- Stopwatch tools / Page Load Profilers (for response time testing)
- Google Chrome Developer Tools (Network tab)