Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	24 June 2025
Team ID	LTVIP2025TMID48398
Project Name	Visualization Tool for Electric Vehicle Charge and Range Analysis
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Collection	Collect datasets for EVs in India and globally Combine 4 different datasets from various sources (CSV, Excel, Google Sheets, APIs) Clean and normalize data using Excel
FR-2	Data Integration into Tableau	Connect static data (Excel/CSV) or dynamic data (Google Sheets) to Tableau Join/Merge data within Tableau or use custom relationships
FR-3	Data Analysis and Processing	Derive KPIs like Average Range, Charging Time, Cost per km, Battery Health etc. Group data region-wise, country-wise, or by EV model
FR-4	Dashboard Creation	Create visuals like Pie charts, Maps, Line Graphs, KPIs Add interactivity: filters, drop-downs, buttons Create multiple dashboards for Indian EVs, Global EVs, Comparison
FR-5	Story Building in Tableau	Use Tableau "Story" feature to present narrative flow of data insights Highlight insights with annotations, text boxes, and transitions
FR-6	Deployment and Sharing	Publish to Tableau Public or Tableau Online Ensure accessibility of dashboards via public link or embed in a report

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The dashboards and visuals should be intuitive, user-friendly, and easily navigable by business users with minimal training. Use appropriate

		color schemes, legends, and tooltips.
NFR-2	**Security**	If deployed on Tableau Server or Online, implement role-based access, data permissioning, and restrict sensitive datasets. Ensure data is securely stored and transferred.
NFR-3	**Reliability**	The solution must consistently load accurate visuals even if multiple datasets are integrated. Should handle missing or incomplete data gracefully.
NFR-4	**Performance**	Dashboards should load within 3–5 seconds. Optimize calculations, filters, and data extracts to minimize rendering time.
NFR-5	**Availability**	Published dashboards (e.g., on Tableau Public or Online) should be accessible 24/7. Ensure minimal downtime and maintain a backup in case of failure.
NFR-6	**Scalability**	The tool should support integration of more datasets (e.g., real-time charging data, more countries, years) without redesigning the entire system. Capable of handling growing data volume over time.