

Electric Vehicle Manufacturing

Tech Stack | Higher Customer Retention



AI Accelerators for a Better Electric Vehicle Usage Experience

PROBLEM STATEMENT

In the rapidly expanding Electric Vehicle (EV) market, this EV charging company wanted to capture a more significant market share. A recently conducted study suggested that EVs would hit 10% of global passenger vehicle sales by 2025, rising to 28% in 2030 and 58% in 2040. This shift is accelerated by the market forces and green government policies in the United States and around the world. Although the range of most electric vehicle models improved significantly in the last few years, first-time EV buyers were often worried about range anxiety - that feeling of being caught short on flat batteries miles from a charging point. This made it imperative for EV charging companies to figure out EV charging stations' best placements in popular driving destinations and routes.

THE SOLUTION

Mastech InfoTrellis designed Ontology Cards from their Ontology Bank to provide a structured and consistent way to represent the popular driving routes in specific geographies. Ontologies helped chart out the ideal routes the EV drivers prefer. This enabled the Electric Vehicle Charging Station (EVCS) company to fathom where the EV drivers tended to drive with Knowledge Graphs. With this insight, the company was able to strategically place EV charging stations and develop a conversational assistant app that suggests the optimal routes to save battery life. The app dynamically monitored driving patterns, including how fast the car was going, and the Smart Ingestion Engine AI Accelerator instantly structured the data to build contextual insights that calculated the remaining battery life and kept the drivers informed via smart functions.

The Smart Data Prep Assistant (SDPA), which kept track of specific data elements from the app and the EV Stations for analysis, also gathered information like traffic, weather conditions, queue estimates at the approaching EV stations, etc. to make the whole process of checking the battery life more accurate.

Leveraging the above AI accelerators, the EVCS company was able to find the most strategic locations to place new EVCS, and significantly improve the driver experience by sharing insights on driving patterns and route conditions.

THE OUTCOME

With the help of solutions created by Mastech InfoTrellis, the client was able to open new EVCS at multiple tactical locations in a short period. This initiated a network effect that helped more people make the shift to Electric Vehicles. The increased and convenient availability of the charging stations resulted in higher brand recall and enhanced the company's brand value. As the brand started getting recognized more, the number of people downloading and actively using the app grew. The company could better understand driver behavior and educate them about their vehicle usage and electric vehicles in general as well. With the right infrastructure and the better customer experience afforded to the users, they gained customers for life.

The solution helped the brand grow exponentially. Identifying the right trade areas for EVCS and offering a better user experience with the app resulted in a higher Net Promoter Score for the app and an overall positive brand experience.