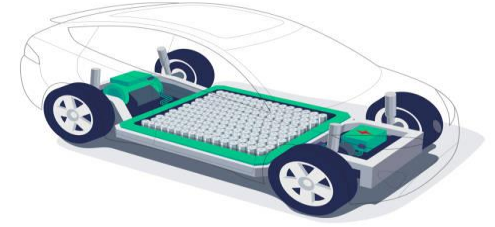# Intelligent Efficient Battery Management Unit in Passenger Cars

Business Challenge

Intelligent Efficient Battery Management unit shall be used in Passenger Electric vehicles to monitor battery status continuously and report any faults and also handles safety during emergency conditions leading to safe state

Requirement

- High voltage battery management system development
- Seamless monitoring and safety handling for any hardware faults
- Optimizing system performance and resource utilization to meet the demanding requirements of ADAS applications

Technology & Tools

- **Hardware** : AURIX 3G family of 32-bit microcontrollers.
- **Compilers**: GNU,TASKING
- **Tools**: Para soft, Perforce, TERA Term, ALPACA, File Zila, Flash Loader, Perforce, JIRA, JTAG Debugger
- **Language** : C, C++,PYTHON

Value add by Mirafra

Mirafra was involved from concept phase to product development to safety management after the items(Battery unit) was released for production

- To Develop the use cases of System requirements by analyzing customer requirements, Architecture and hardware schematics
- Worst case circuit analysis of HW blocks and special attention to Battery Circuitry
- FMEA, HAZOP and FTA analysis
- V model software development, integration and testing

Adhering to IS026262 for the aforementioned.

mirafra
TECHNOLOGIES