

# HV Traction Battery Pack Design

## CHALLENGES

- Design and develop 102kWh Lithium-Ion Battery for full electric vehicle application for a European-OEM, which include the design of Module stack, Busbar, Thermal management system, Frame and structures.

## SCOPE

- Concept layout design
- Engineering design
- Structural robustness

## SOLUTION

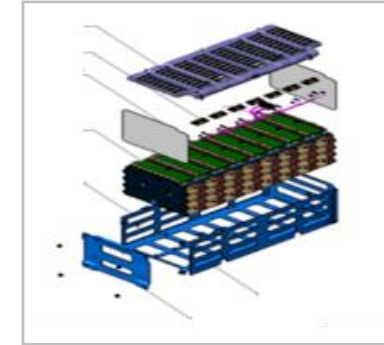
Tata Elxsi engaged in designing modular cell stack, module structure, busbar, thermal system and modular frame for the battery pack.

- Series and parallel cell group configuration design
- Structural components design
- Single and two-sided Busbar sizing and packaging design
- Busbar insulator design and material selection
- Cooling plate design with flow rate calculation.
- Mounting strategy design – Module to pack to vehicle
- Battery frame design and generate make-to-print drawings

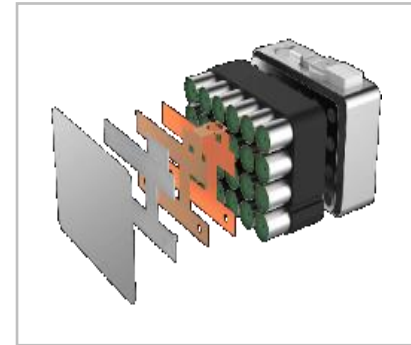
## IMPACT

- Modular stack design
- Cost effective material for Busbar
- Modular frame structure

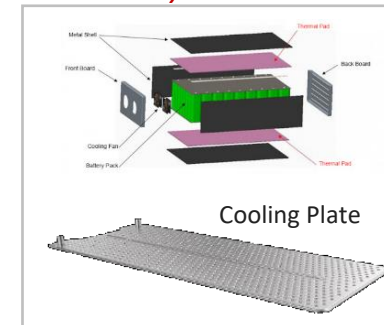
*Module Stack*



*Busbar*



*Thermal Management System*



*Frame and Structures*

