TATA ELXSI

CASE STUDY

BiW Design – Light Weighting

BACKGROUND AND CHALLENGE

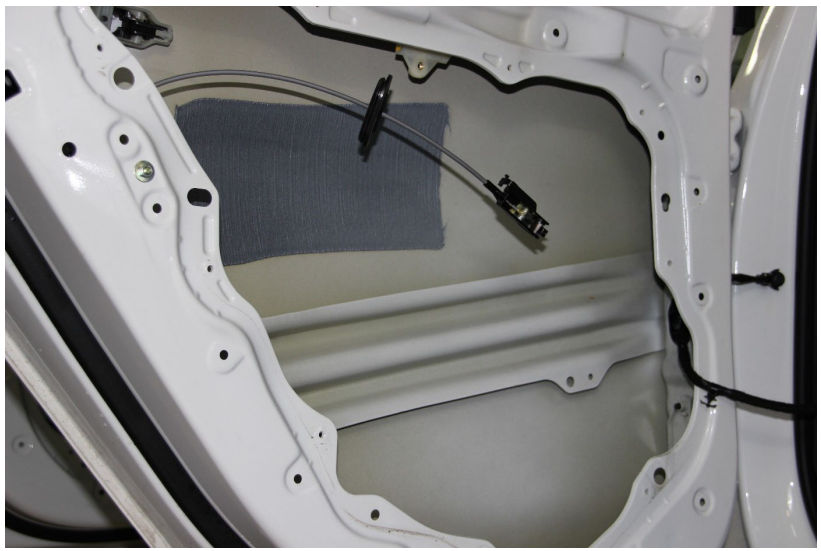
A major automotive OEM wanted to optimize the weight to achieve given weight target to reduce carbon foot print

SCOPE OF WORK

- Design Optimization of BIW Structures
- Closures from Class A – Surface input for new vehicle variant during the design phase

SOLUTION

- Evaluation of master sections for requisite changes in the BiW components and the impact on the closures
- Evaluation of complex geometry sections to integrate multiple structures after detailed study on the impact on manufacturing, functionality and performance
- Assessment of impact on the performance through preliminary virtual simulations and relevance for closures
- Proposed, engineered, and implemented reduced BoM quantity by 5 parts



IMPACT

- Able to achieve weight reduction which translated to cost and time for manufacturing
- Reduced CO2 emission in conventional vehicles and improved range in case of electric vehicles