

LUCID MOTORS

Automotive Architecture/Design/Packaging

Created a feasible product concept and release
Conducted product development design best practices for manufacturability and assembly
Conducted successful launch and tool kickoff with the Lucid global base chain suppliers

AREAS SUPPORTED

Lucid Air Standard, Air Extended, Air Pure, and Gravity

KEY TOOLS & TECHNOLOGIES

3DExperience modules: part design, assembly design, generative shape design, collaborative life cycle, drafting, design review

Collaboration with Autoform stamping simulation for product optimization

KEY DATA

Team Size: 1 Engineer

Time: Since 2021

Location: San Francisco, CA

Time and Materials Package

ALTEN TECHNOLOGY

HIGH-VOLTAGE BATTERY ENCLOSURE DESIGN

OVERVIEW

ALTEN Technology collaborated with Lucid and its global chain suppliers to design and develop the second-generation high-voltage battery enclosure pack.

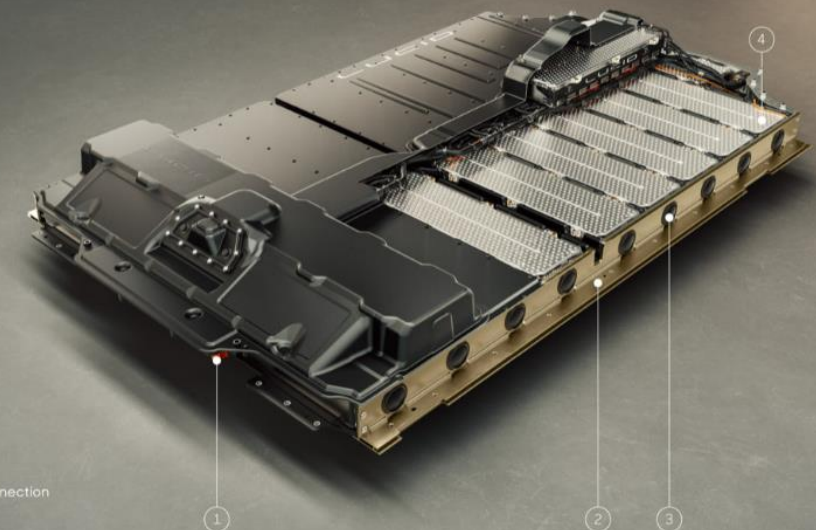
The second-generation high-voltage battery in the Lucid Motors Air Standard, Air Extended, Air Pure, and Gravity models required battery pack optimization, enclosure replacements, service covers, and sealing technology.

PROJECT DETAILS

- Performed concept design and design release for high-voltage battery enclosures (rear and front covers) for Air Standard, Air Extended, Air Pure, and Gravity models
- Created deep-draw sheet metal stamping designs
- Owned products with the global chain suppliers for feasibility studies and awards
- Optimized product for manufacturability and production
- Performed design for serviceability (DFS) for service covers to access the battery disconnect unit (BDU)
- Designed gaskets for service covers
- Performed surface design for sealing purposes to mainframes and split stamping parts by laser welding and spot welding technologies
- Conducted complex stack-up analysis between battery pack versus covers versus body in white



Lucid Battery Pack



Voltage Connection
Enclosure
Service Covers
Battery Module