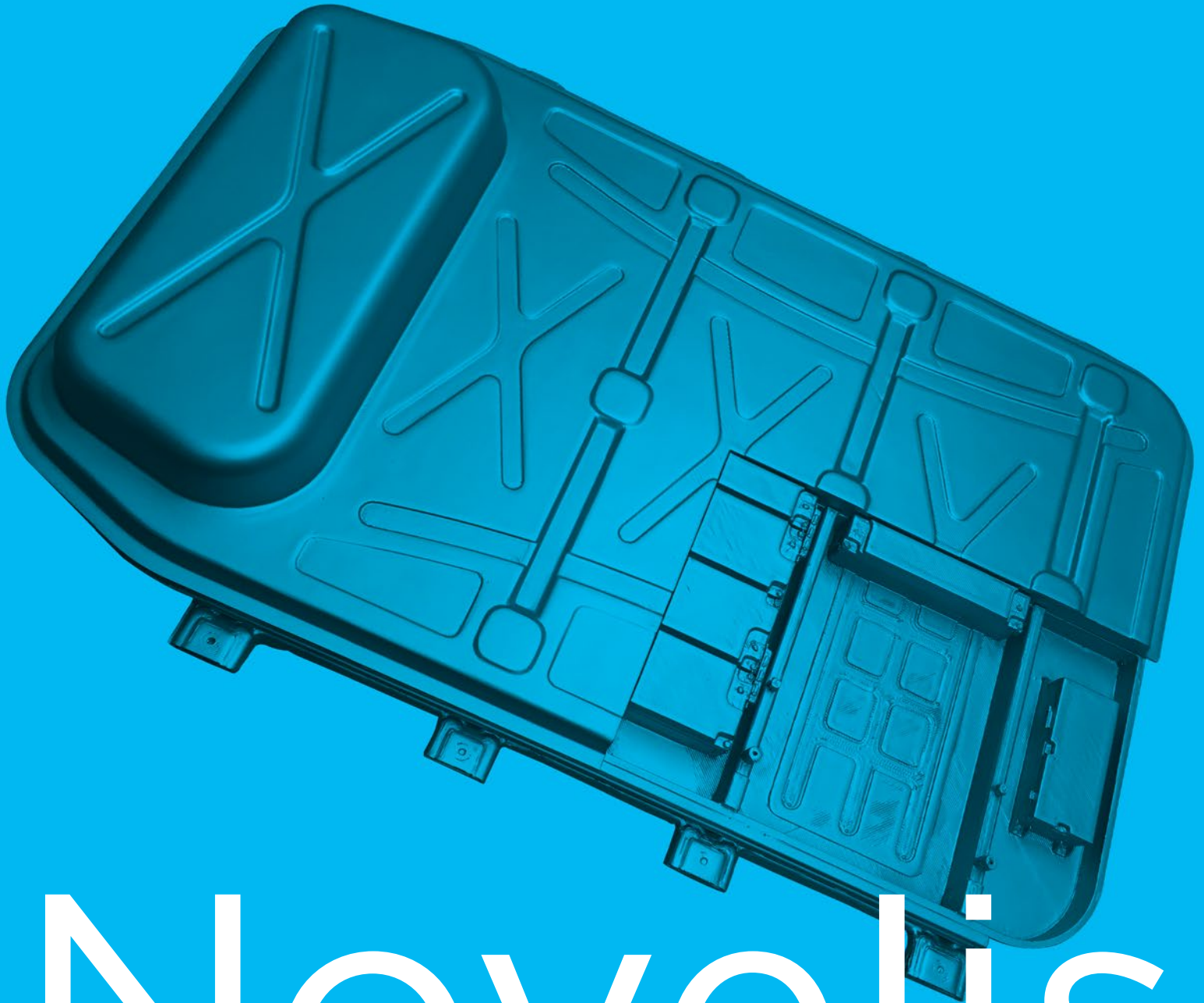


# Novelis Battery Enclosure



Novelis has created the first flat-rolled, aluminum-intensive electric vehicle battery enclosure designed for mass production vehicles.

Not just aluminum, Novelis Aluminum.™



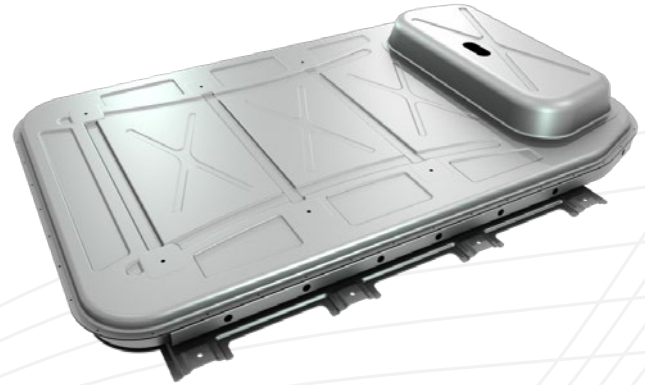
# Novelis

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Novelis has developed the first aluminum sheet battery enclosure solution to address customers' needs in the rapidly growing electric vehicle and battery markets. This innovative design for next-generation automobiles provides a more sustainable mobility solution for battery electric vehicles.

## Design Benefits

- Up to 50 percent lighter than an equivalent steel design
- Best-in-class mass energy density at more than 160 watt-hours per kilogram, an extremely efficient design for OEMs and Tier 1 battery pack manufacturers.
- Accommodates all battery cell types and is designed particularly for battery electric vehicles with larger power packs such as pick-up trucks, sport utility vehicles and crossovers.
- Most cost-effective aluminum solution for mass production electric vehicles when compared to aluminum extrusion and casting-intensive designs.
- Low price premium on \$/kg saved compared to equivalent steel designs at substantially lower weight.



## Performance Benefits

- Provides automakers the ability to achieve deep drawn, complex shapes tailored to specific vehicle design requirements
- Extends range, allowing vehicles to go 6-10 percent further on a single charge
- Protects batteries from road debris and vehicle crashes

## Innovation

The battery enclosure is built with Novelis Advanz™ high-performing alloys that are featured on more than 225 models in every application. Aluminum offers a safe, sustainable and cost-effective way to lightweight vehicles that result in better performance and agility, increased fuel economy and reduced carbon emissions.

## Future Mobility

Many automakers are allocating more time and resources to electrification, connectivity and autonomous driving, and are looking to suppliers to provide collaborative lightweighting solutions. As automakers continue investing in sustainable mobility solutions, aluminum is increasingly the material of choice for reducing vehicle emissions. The introduction of this battery enclosure solution aligns with Novelis' purpose to shape a sustainable world together.

