

Battery to pack power efficiency





Overview

CTP technology significantly improves energy density by reducing the weight and volume of non-essential components. This allows EV batteries to store more energy within the same physical space. Why do batteries need a cell-to-pack design?

In addition to increasing energy density requirements at cell level, this also means that the cells must be packed ever more densely. For this purpose, battery concepts with cell-to-pack design are investigated in this microarticle.

How to ensure a battery pack is still strong?

challenge to ensure that the battery pack is still sufficiently strong. One approach in the cell-to-pack design is to install large-format prismatic cells that serve as a structural element in the battery. If a thermal event occurs, which is usually triggered by a faulty or over-loaded battery.

How does cell-to-pack technology IMPACT EV batteries?

The impact of Cell-to-Pack technology on EV batteries is transformative, addressing key challenges in energy density, cost, and charging performance. By streamlining battery design, CTP technology enhances the efficiency and range of electric vehicles while supporting faster and more reliable EV charging.

How much of a conventional battery pack can be saved?

Up to 40 % of the components of a conventional battery pack can be saved. The rapid development of electric mobility and increased use of renewable energies have resulted in a huge rise in the demand for space-optimized batteries with high storage capacities in recent years. The battery system in today's electric vehicles can be divided into



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