New Energy Storage Equipment Disassembly Process

What is repurposing as a building energy storage system?
Repurposing as building energy storage systems is an energy-efficient and environmentally friendly way to second-life electric vehicle batteries(EVBs) whose capacity has degraded below usable operational range e.g.,for electric vehicles.

Why is disassembly important in recycling and remanufacturing used products?
Disassembly is essential in recycling and remanufacturing used products . To repurpose or recycle an assembly of various materials,disassembly and sorting the components are required before assembling reusable components into second-life products or recycling components into raw materials.

What is a planning approach for battery pack disassembly?
For example,Wegener et al. mainly discussed a planning approach for battery pack disassembly using a priority matrix and disassembly graph. They featured the disassembly of the Audi Q5 Hybrid pack to develop the sequence and strategy while proposing a basic workstation layout for the disassembly process.

How to design a battery disassembly system?
The design of the disassembly system must consider the analysis of potentially explosive atmospheres (ATEX) 1 of the area around the battery pack and, if necessary, adopt tools enabled to work in the corresponding ATEX zone.

Can a robotic cell disassemble a battery pack?
The analysis highlights that a complete automatic disassembly remains difficult, while human-robot collaborative disassembly guarantees high flexibility and productivity. The paper introduces guidelines for designing a robotic cell to disassemble a battery pack with the support of an operator.

What is a disassembly process?
The disassembly process sets special requirements,such as high voltage isolation and the capability to operate in a potentially explosive atmosphere for the tools. The requirements impose the design of special solutions to improve the components available on the market.

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These trends have the potential to revolutionize the disassembly process and offer new opportunities and challenges. One emerging trend in disassembly is the use of artificial ...

new model of disassembly process for remanufacturing is developed. Current studies only consider

disassembly as a physical activity to break down products into components. In the ...

The process for battery disassembly mainly includes disconnecting the wires, splitting the batteries, and removing the frame. After disassembly, the battery has to be crushed and separated. The crushing and ...

2020, Energy Storage. ... Fig. 1 shows China"s new energy vehicle (battery electric vehicles and plug-in hybrid electric vehicles) sales in 2016-2018 [6]. The recycling process comprises of ...

With the growing requirements of retired electric vehicles (EVs), the recycling of EV batteries is being paid more and more attention to regarding its disassembly and echelon utilization to reach highly efficient resource ...

This paper discusses the future possibility of echelon utilization and disassembly in retired EV battery recycling from disassembly optimization and human-robot collaboration, ...

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The parts which are lost in the disassembly process must be easily separated. 4. The assembly process must be capable of being automatized. 5. The disassembly process must be capable of being ...

selective optimized plan, the potential recovery values during the disassembly process can be improved at least two times. Keywords: Disassembly, Waste electrical and electronic ...

Disassembly sequence planning (DSP) is a key approach for optimizing various industrial equipment-maintenance processes. Finding fast and effective DSP solutions plays an important role in improving maintenance ...

Direct methods, where the cathode material is removed for reuse or reconditioning, require disassembly of LIB to yield useful battery materials, while methods to renovate used batteries into new ones are also ...

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