

PRESS RELEASE

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Automakers, Workshops, and Recycling and Recovery Companies will Benefit

Old Batteries from Electric Vehicles: Too Valuable to Shred

After years of use, many traction batteries still have a residual capacity of between 70 and 80 percent. While this may be too little for further use in vehicles, some cells could still serve well in large storage systems for households, businesses, or utility providers. Shredding used modules or entire high-voltage storage systems would thus waste valuable resources. By repairing and remanufacturing these batteries, not only can precious resources be preserved, but the lifespan of the components can also be extended. Cells that have been specifically refurbished and repurposed for new applications can be ready for long-term use again. Dr. Rico Schmerler and his team at Fraunhofer IWU, in collaboration with EDAG Production Solutions, are investigating how components and cells from traction batteries can be extracted efficiently and cost-effectively in a new project.

Focus on Value Creation and Environmental Protection

The future pilot plant in Chemnitz is a response to the rapidly growing demand for efficient solutions within the circular economy. By 2030, the number of used batteries in the EU is expected to increase more than tenfold. By then, processes will be essential that go beyond just recycling and shredding batteries. A largely damage-free disassembly of all components down to the cell level is a prerequisite for a second life for batteries through the exchange of defective or aged cells or modules. This very type of disassembly will be made possible by the new dismantling plant. It will not only reduce the need for energy-intensive new production but also make it easier for recycling companies to recover valuable raw materials such as lithium and cobalt from cells that can no longer be refurbished.

Automated Dismantling, Data, and Qualification

Fraunhofer IWU is currently working with EDAG Production Solutions to build a highly innovative, automated dismantling plant for active (functional) traction batteries at the Chemnitz location.

The facility focuses on variant-flexible, AI-supported dismantling to ensure economical and safe handling of various high-voltage storage systems. An integrated system to analyze the "state of health" (SoH) of modules and cells ensures that only reusable

Contact

Andreas Hemmerle | Fraunhofer IWU | Phone +49 371 5397-1372 |
Reichenhainer Straße 88 | 09126 Chemnitz | Germany | www.iwu.fraunhofer.de | andreas.hemmerle@iwu.fraunhofer.de |

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components are reintroduced into service. Completely intact units can even be used in new traction batteries.

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In addition, the new infrastructure will serve as a data platform to standardize recycling and recovery processes. The data collected will also form the basis for further developing the qualification profiles of skilled workers in Saxony. Interdisciplinary knowledge in mechanics, electrical engineering, and computer science will continue to gain importance in many professions related to the automotive industry.



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This measure is co-funded by tax revenues based on the budget passed by the Saxon State Parliament.

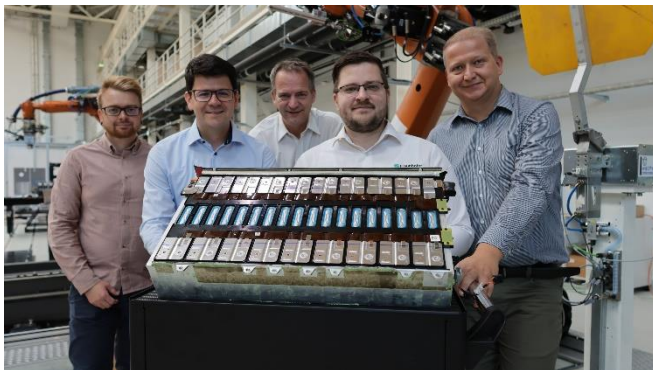


Abb. 1 The project team at Fraunhofer IWU, from left to right: M.Eng. Christian Fritsch, Dr.-Ing. Rico Schmerler, Dr.-Ing. Thomas Hipke, M.Sc. David Löffler, Dipl.-Ing. Carsten Lies.
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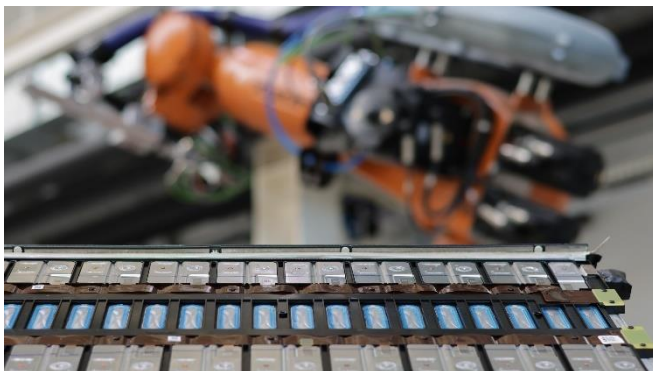


Abb. 2 Only through automation can dismantling processes become economical.
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