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Reduced process costs for electrode manufacturing

The intensive research work of the Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS Dresden with respect to the reduction of the manufacturing costs in the field of battery cells fabrication has again provided impressive results. Within the framework of the research project DryLIZ , funded by the German Federal Ministry of Education and Research (project number 02PJ2302) our scientists once again succeeded in reducing the processing time and costs for the electrode packaging process.

The project's objective was to design the electrode's cutting process to be performed "on-the-fly", that means without stopping the material. "The extraordinary challenge for the IWS scientists and their partners was to achieve one cut per second and to position the cut very quickly on the staple", explains Dr. Philipp Thümmler, project manager at the IWS. "Thanks to a cost-effective laser and a specific winding and rewinding process we were able to achieve the project's objective (completed June 2015). Further improvements may imply another reduction of the processing time by 50 percent."

The complete packaging and transport process is performed in a dry air volume, which is particularly minimized for this process. Only 10 percent of the complete room volume (related to the IWS laboratory operation) is conditioned, the operators work in a natural atmosphere. Consequently the costs for the air treatment are significantly reduced compared to large dry air spaces.

The DryLIZ project and further results in the field of battery research and energy efficiency are being presented at the 3rd Dresden Conference »Energy in Future – Materials for Energy«. Interested participants are invited to take part in a guided tour through our IWS research laboratory taking place after the conference on November 11, 2015. For further details please visit the conference's website www.zukunftenergie-dresden.de.

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Electrode packaging with laser "on the fly"

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