

# PRESS RELEASE

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## DRYtraec® to become technology platform

### Fraunhofer IWS receives millions in federal funding for dry battery electrode coating technology

**(Dresden, 05/12/2022) The DRYtraec® coating process developed at the Fraunhofer Institute for Material and Beam Technology IWS allows the dry production of battery electrodes without toxic organic solvents or water. In particular, the space- and energy-intensive drying step of conventional wet-chemical coating processes is completely eliminated. In addition to environmental protection aspects, there is enormous potential for cost reduction in the battery cell production. The German Federal Ministry of Education and Research (BMBF) is now funding a project with 3.7 million euros that will develop the dry-coating technology into a holistic technology platform.**

Several prototypes of DRYtraec®-based coating systems have already been built by researchers at Fraunhofer IWS together with partners from industry. They coat electrodes for lithium-ion, solid-state or lithium-sulfur batteries continuously and scalable in a roll-to-roll process. The performance of the electrodes is comparable to conventionally produced electrodes in the so-called "slurry process" and in some respects even exceeds them. So far, the focus of the scientists has been on the development of efficient coating processes. However, upstream and downstream processes or accompanying analytics are often still realized in time-consuming and discontinuous procedures.

#### DRYplatform focuses on the entire process chain

To better meet industrial requirements, the "DRYplatform" project aims to map the entire process chain from raw material through the winding process to the finished electrode as a continuous and coordinated sequence of individual processes. The project aims to expand the DRYtraec® coating technology with plant and equipment technology specifically for the accompanying process steps. In this way, an innovative and comprehensive technology platform for solvent-free electrode production will be realized, the functionality of which the researchers intend to demonstrate in a technology-relevant environment. In the future, DRYplatform will allow to comprehensively and efficiently consider material-process-property relationships in research and development on battery electrodes from dry processing. The platform enables Fraunhofer IWS to integrate the revolutionary dry film process into the

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Responsibility for the content of this publication remains with the author.

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nationwide research activities and to establish DRYtraec® as a unique selling proposition. Furthermore, it provides an offer to companies along the value chain to be able to evaluate targeted issues, material innovations or other innovative developments including their influence on the overall process quickly, targeted and comprehensively at a high level of technological maturity.

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**Planned extensions in four technological modules**

- Powder pretreatment: Installation of scalable equipment that enables continuous material pretreatment
- Electrode production: Realization of a precise continuous dosing and conveying system for dry mixtures, combination with the existing DRYtraec® plant technology as well as setup of an intelligent electrode fabrication system
- Analytics: Compilation of a comprehensive analytics package for online process monitoring issues as well as individual samples in the context of networked data analysis for a comprehensive understanding of process-structure-property relationships
- “Microenvironments”: Encapsulating facilities for future-oriented research on processes for next-generation battery materials

More information about DRYtraec® offers the website [www.drytraec.de/en.html](http://www.drytraec.de/en.html)



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**The DRYplatform investments expand the Fraunhofer IWS equipment technology for DRYtraec® dry-coating into a unique technology platform.**

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Materials and Lasers – Competence with a System: The **Fraunhofer Institute for Material and Beam Technology IWS** develops complex system solutions in materials and laser technology. We define ourselves as idea drivers developing customized solutions based on laser applications, functionalized surfaces as well as material and process innovations – from easy-to-integrate custom solutions to cost-efficient solutions for small and medium-sized enterprises to industry-ready one-stop solutions. Our research focuses on aerospace, energy and environmental technology, automotive, medical and mechanical engineering, toolmaking, electrical engineering and microelectronics, and photonics and optics sectors. In our five future and innovation fields of battery technology, hydrogen technology, surface functionalization, photonic production systems and additive manufacturing, we are already creating the basis today for the technological answers of tomorrow.



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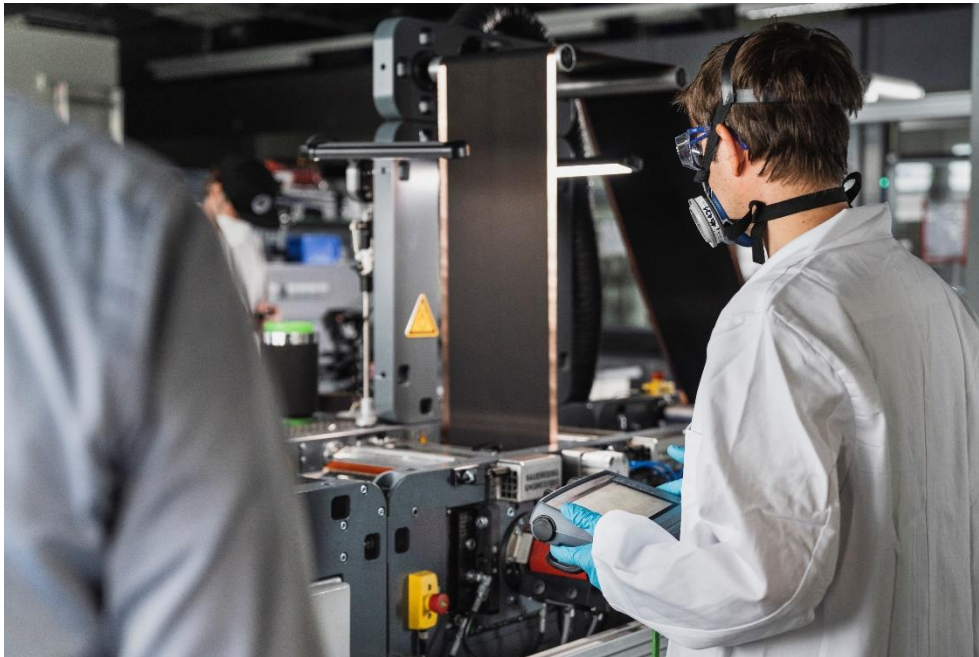
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**DRYplatform enables future research and development both on process development for dry-coating and for innovative material developments.**

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**By investing in state-of-the-art measurement technology and intelligent sensors, DRYplatform enables an efficient evaluation of process-structure-property relationships during dry coating.**  
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