“Constructing a Common Infrastructure for Measurements and DX”

Research Platform Integrated with Advanced Characterization and Digital Transformation Techniques for Batteries and Hydrogen Technologies

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R&D Team : National Institute for Materials Science (NIMS)

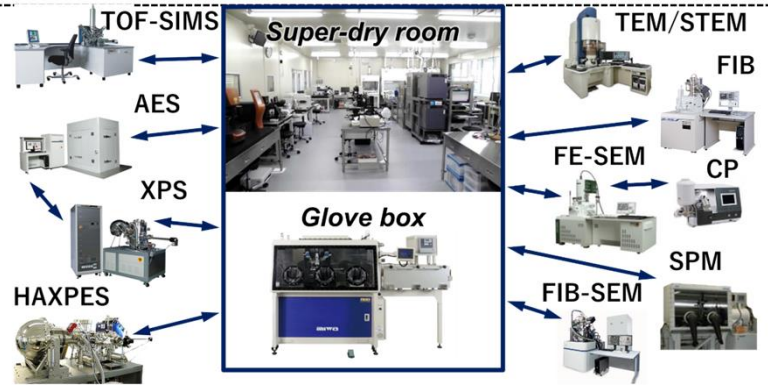
Summary :

We build and operate a research platform for batteries and hydrogen technologies, integrated with advanced characterization and digital transformation techniques.

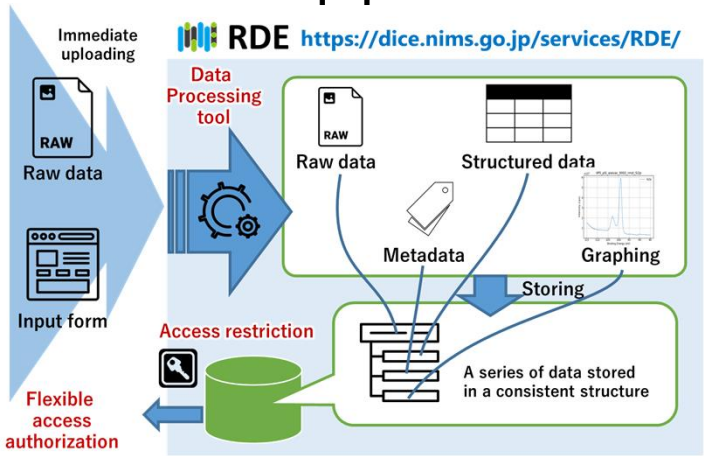
The platform provides GteX researchers with the infrastructure necessary for prototyping test cells, for evaluating the cell performance, and for characterizing the structure of materials/electrodes/cells under one roof. We further develop the cutting-edge multiscale/multimodal characterization techniques using this infrastructure for clarifying the mechanism of physicochemical phenomena underlying the cell performance in collaboration with teams in storage batteries and hydrogen area.

Those experimental data are efficiently collected to construct an integrated database for high-throughput R&D. We develop various AI analysis tools to analyze the data and link it to the search for new materials and structures to improve the cell performance and durability.

https://www.nims.go.jp/brp/nims/
https://dice.nims.go.jp/



Advanced research equipment under one roof



System used to build an integrated database