

Realization of common platform technology, facilities, and equipment that creates innovative knowledge and products

Materials Exploration Platform; Expanding Search Space by high-throughput technology

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Summary:

In order to improve efficiency of material research and development, we build a new material search method "Materials Exploration Platform", utilizing experience which is Japan's strengths.

POCs are following three for KPI of 1,000-times throughput on battery materials synthesis;

① High-throughput autonomous exploration systems;

- "Prototype": autonomous experiment system
- "Measure": automatic crystal structure analysis
- "Accumulate": properties prediction system

② Data-driven/hypothesis-driven hybrid research style;
"Understand (induce inspiration based on experience)" is connected to "P"→"M"→"A" by machine learning.

③ Knowledge shearing;

Knowledge obtained from data, inspiring researchers, is shared with R&D institution, R&D company, and measuring instrument manufacturers for future materials R&D ecosystem.

