Realization of Common Platform Technology, Facilities, and Equipment that creates Innovative Knowledge and Products

R&D Project Title: Development of Materials Design Workflow and Data Library for "Materials Foundry"

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Summary :

Purpose: " Materials Foundry " where the materials design tools and materials data are shared is proposed as the place for new materials discovery.

Social Need: New materials are in the value chain of the products and faster development is inevitable in the market.

Challenge: To accelerate the new materials discovery, vertical screening with materials descriptors, high throughput experimentation with machine learning are adopted. The obtained data is kept in the storage and reused for another screening. Also the high throughput equipment is accessed via internet and operated by anther Institutes. Finally the workflow of materials design is completed in the " Materials Foundry".

Materials Foundry

① 材料設計（個々のアイデア）
② 材料のバーチャルスクリーニング ・データベース ・データ科学 ・機械学習 など
③ 材料の絞り込み（100種類程度） ・ハイスループット材料合成・評価
④ データベース登録
⑤ 新材料の発見
インターネットアクセス
大学、研究機関
企業研究所