PARADIM Data Collective: MRS Bulletin Report of Community Action on Implementation of FAIR Principles for Materials Data

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PARADIM co-created a community-action roadmap for widespread implementation of FAIR principles to unleash an era of data reuse and fuel Materials Genome Initiative (MGI) accelerations of discovery, design, and deployment. The work was a collaboration of the Materials Research Data Alliance (MaRDA) Working Group on FAIR Principles that identified four levels of actions for individual research groups to make their data more FAIR as well as community-level actions to enable FAIR and create resources that provide high-value and incentives to enact FAIR. FAIR data for Materials is a cornerstone of the Materials Genome Initiative (MGI) Strategic Plan to fuel accelerated discovery, design, and deployment of new materials.

The roadmap, right, shows: 1) definitions of four levels of individual actions data producers can use to participate in FAIR for structured (e.g. tabular values) or unstructured (e.g. images) data; and 2) actions the community can work on to create knowledge, acceptance, and value in materials FAIR data. These include training for workforce development, creation of FAIR for models and software that use shared data, benchmark and community datasets for validation and high-impact outcomes; development of trust and sustainability in repository resources; and a system to reward those creating and sharing data in impactful ways.

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