ASM Structural Materials Data Demostration Project

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NIST National Institute of Standards and Technology U.S. Department of Commerce

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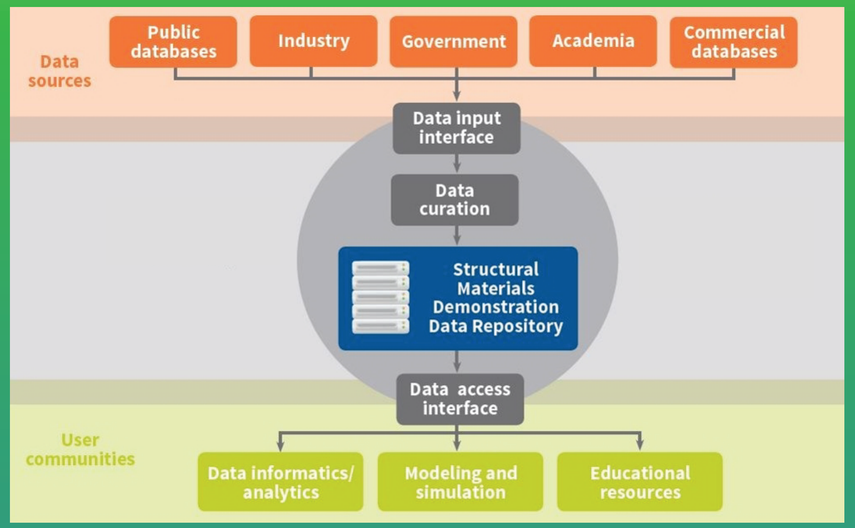
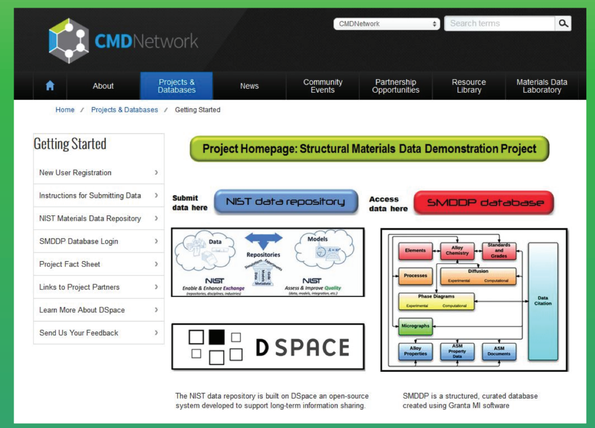
The Structural Materials Data Demonstration Project SMDDP) is a cooperative research project with the NIST Materials Measurement Laboratory (MML) that is working to create an open demonstration data respository for metallic structural materials. In its initial phase, the project is focusing on the heat treatable aluminum 6061 alloy and its underlying ternary system of Al-Mg-Si, incorporating diffusion, phase equilibria, microstructural, and mechanical property data. The overall objective of the project is to provide a tool that the materials community can use to accelerate progress toward the goals of the Materials Genome Initative (MGI).

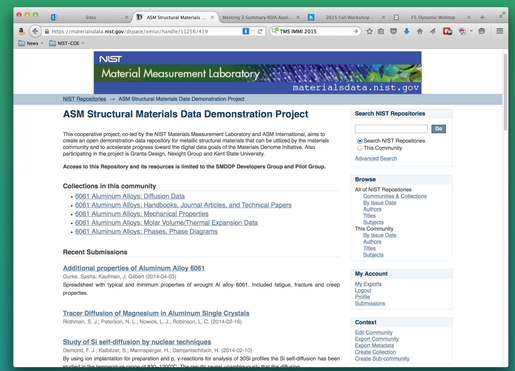
SMDDP consists of three phases, marked by the progressive development of key data repository elements and access by increasingly larger segments of the materials digital data community. The partners guiding the project include ASM International, NIST MML, Granta Design Ltd. and its affiliate Materials Data Management Inc. (MDMI),Kent State University, and Nexight Group.

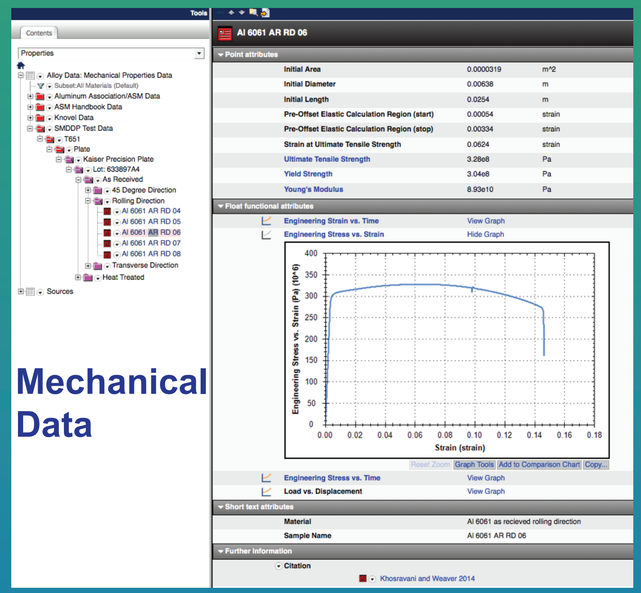


Database Structure

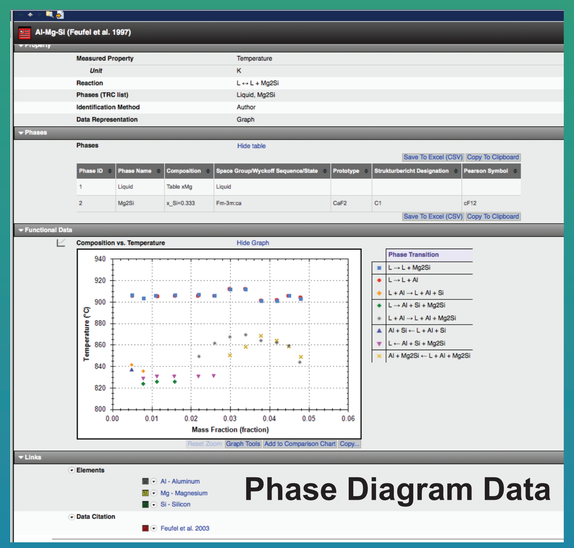


Granta Database is linked to the NIST DSpace repository.

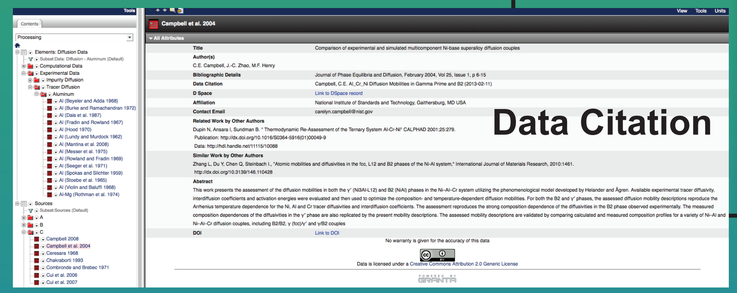




Mechanical Data

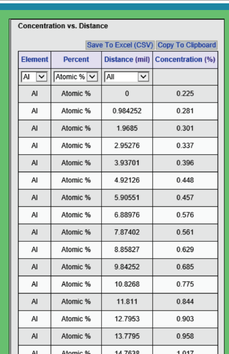


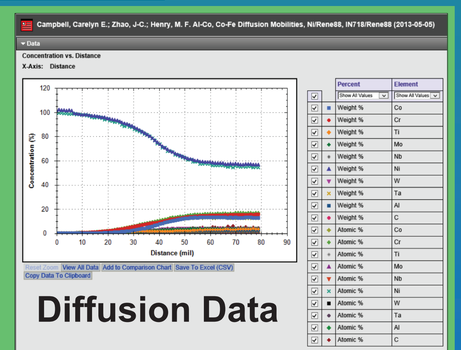
Phase Diagram Data



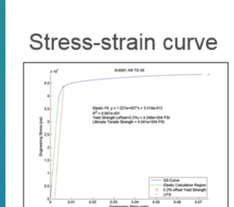
Data Citation

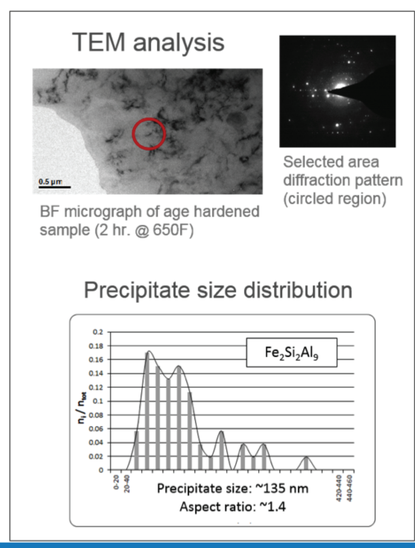
Public release is expected by the end of 2015.

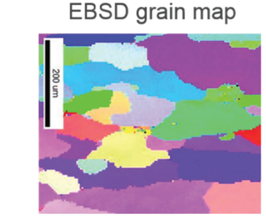


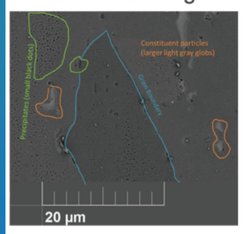


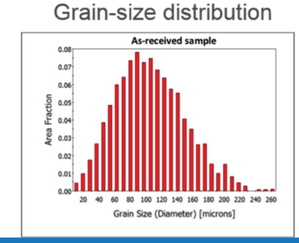
Diffusion Data











Partners

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ASM INTERNATIONAL
NEXIGHT GROUP
GRANTA MATERIAL INTELLIGENCE
KENT STATE UNIVERSITY
Georgia Tech