

RDA DTR & PID & MGI Goals

RDA P5
Adoption Day
San Diego, CA
March 8, 2015

The Materials Genome Initiative

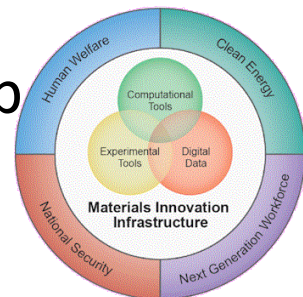
Goal: decrease the cost and time-to-market by 50%

<http://www.whitehouse.gov/mgi>

Materials Genome Initiative
for Global Competitiveness

June 2011

1. Launch interagency effort & funding: DOE, DOD, NSF, NIST
2. Double the speed to discover, develop, and manufacture
3. Provide wealth of information to develop new products and processes



RDA Call: Applications for Adoption of its Products

- Adopters to work with any/all of 4 WGs:
 - **Data Type Registry**: online service for listing uniquely identified application data types so that tools can be associated with DTs.
 - **Persistent Identifier Information Types**: suggested set of information associated with a persistent identifier.
- Adopters to evaluate product within community environment in terms of value added to established resources.

Adopting RDA Infrastructure & MGI

- Broad Aim:
 - Prototype integration of RDA Data Type Registry + PID Concepts into Materials Genome Initiative's Materials Innovation Infrastructure
- Objectives:
 - Work closely with NIST: Datasets, guidance, feedback
 - Build Use Case – *Phase based Materials Datasets & Types*
 - Test Data Type Registry + PID Information Types

Demo Project Activities

- Define Use Case(s)
 - Identify relevant small & large datasets
 - Identify essential data types
- Relate to NIST RDA Registry
 - Integrate unique, complementary elements
 - Identify components that need to come together
- Evaluate registry
 - Make repository services discoverable via data types.
 - Find data & target services

RDA DTR & PID WGs

- DTR WG:

- Aim: “record implicit details of data as Data Types & associate uniquely identified Types with different instances of datasets”
- Benefit: Ability of user to find & retrieve available services to be used with related data.

- PID WG:

- Aim: “specify a framework for information types & build consensus on some essential types”
- Benefit: define Data Types for Use Case & as additional DTs added

Materials Datasets & Data Types

Experimental data for use in
aerospace and automotive industries

- Diffusion
 - Including self-diffusion, interdiffusion
- Experimental Methods
 - Including x-ray diffraction, PVD (physical vapor deposition)
- Thermochemical & Thermophysical Properties
 - Including molar volume, thermal expansion & elastic constants
- Phase Transformation & Mechanical Properties

Timeline

- Start of Project – early Feb:
 - Identify Use Case, data sets, repositories
 - Begin discussion of needed data types
 - Relate to current NIST RDA Registry work
 - Determine what parts need to work together
- Middle of Project – middle Apr:
 - Finalize data types
 - Preliminary test to connect registry with repositories
- Before end of Project – mid June:
 - Finalize test to connect registry to find & target services
 - Evaluate added value to community environment & resources