



## Materials Data Management Software

*Enables more affordable, efficient, and sustainable designs*

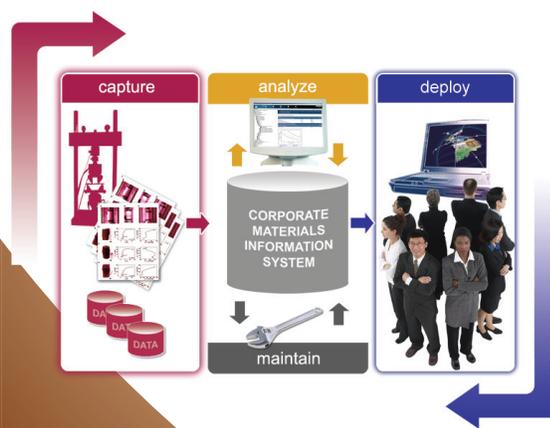
### TECHNOLOGY OPPORTUNITY

The Material Data Management Consortium (MDMC), co-founded by NASA's Glenn Research Center along with ASM International and Granta Design, has led the development and release of the revolutionary new GRANTA Material Intelligence (MI) software platform ([www.grantadesign.com](http://www.grantadesign.com)), a state-of-the-art tool for managing the life cycle of materials information, from the testing machine to the design engineer's desktop. This comprehensive materials information management system offers a series of powerful software tools to help companies control, analyze, and manage all aspects of the materials data life cycle. The Material Strategy Software Consortium (MSSC) also recently released CES Selector, a PC software application that offers advanced graphical analysis of materials data, plus specialist ecodesign and modeling tools, in support of materials selection and substitution decisions. GRANTA MI and CES Selector provide the data that companies need, when they need it, in the format that they require, saving time and money and increasing competitiveness. Experience the difference (as numerous world-leading, member organizations have) that best-in-class material information software can make to your bottom line.

### BENEFITS

These powerful design and analysis tools provide the following benefits:

- Ensure that designers have the right data at the right time in the right format
- Integrate materials information management with the Product Life Management (PLM) process, saving designers time in getting the materials data that they need
- Control and manage testing and quality assurance data to increase efficiency/competitiveness and protect corporate knowledge
- Apply materials information to optimize materials strategy (e.g., to support cost control or quality initiatives)
- Help to ensure regulatory compliance (e.g., with EuP, RoHS, and REACH legislation)



### APPLICATIONS

#### GRANTA MI

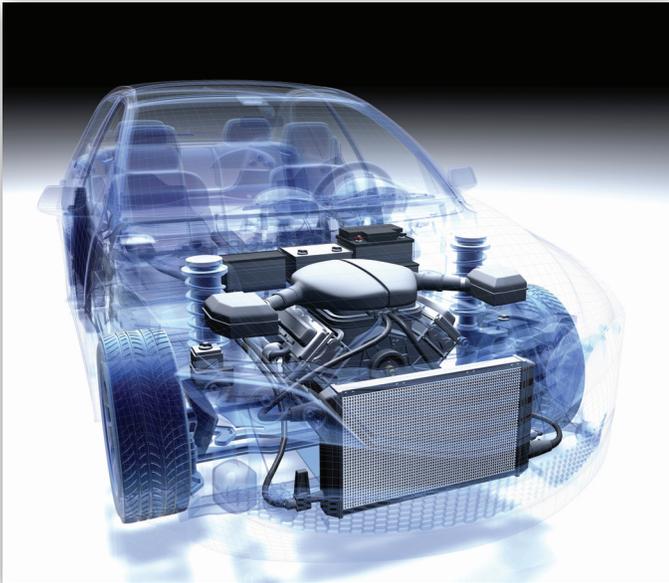
- Implement best practices in materials database management
  - Capture, analyze, and manage all materials in a single, searchable database
- Enable critical materials and manufacturing choices in engineering enterprises
  - Optimize design
  - Reduce cost
  - Avoid risk due to restricted substances

#### CES Selector

- Helps in selecting materials and alternatives
- Considers sustainability early in the design process
- Visualizes property space to guide development plans

## HOW IT WORKS

NASA Glenn Research Center uses GRANTA MI to handle its materials information storage needs for composites. GRANTA MI allows NASA to create a central engineering information database that not only contains typical material property information but also entire response histories (e.g., tensile, creep, relaxation, and cyclic curves) of the associated variables. One of the key capabilities of GRANTA MI is its ability to capture the fundamental multiaxial response data with their full pedigrees (e.g., constituent chemistry, microstructure, processing, testing information, laminate/woven architecture, etc.) and application potential of a given materials system.



## WHY IT IS BETTER

The system's main benefits for NASA are the significant time and cost savings and the traceability of material data, including their full pedigrees. The system also links supplemental information through a comprehensive, integrated approach that saves valuable corporate knowledge within the system. Glenn has implemented GRANTA MI to capture, analyze, and share both test data and external reference data. The software enables more sophisticated constitutive modeling and creates an information resource that can support new or refined models and analysis tools in the future, without the need to repeat expensive tests. GRANTA MI has helped NASA streamline its research and design processes by providing a single integrated system for managing materials data.

## PARTNERING OPPORTUNITIES

We welcome industry partners to learn more about the following consortiums:

### Material Data Management Consortium

The Material Data Management Consortium is a unique collaborative project focused on developing and applying software to manage mission-critical materials data in the aerospace, defense, and energy sectors.

### Material Strategy Software Consortium

The Materials Strategy Software Consortium is a collaborative project that defines and applies new software to manage materials data and meet the challenges of material selection, substitution, and cost optimization. Benefits include reducing overall manufacturing costs, mitigating the risks associated with global engineering and improving product quality.

### Environmental Materials Information Technology Consortium

The Environmental Materials Information Technology Consortium is a collaborative project that develops and applies materials information technology solutions to assist design around environmental constraints.

Consortium membership is open to all qualifying organizations who utilize the above software tools. Membership provides significant return on investment due to the ability to influence the direction of software development, networking opportunities, and collaborative nature of members.

## FOR MORE INFORMATION

For more information about this and other technology licensing opportunities, please contact

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