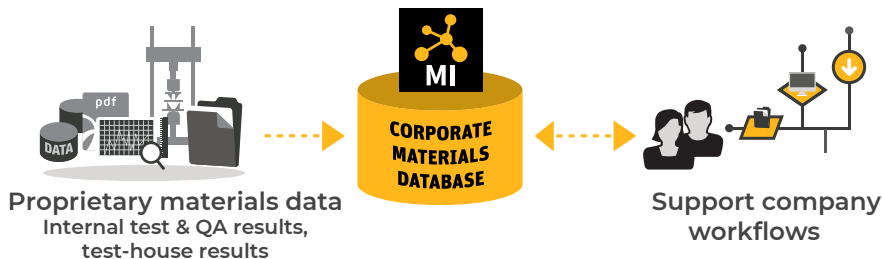




Ansys Granta for Test Data Management

Organizations can ensure that they get maximum return from their materials testing and qualification programs — for alloys plastics, composites, and other materials.



- **Ansys Granta is the industry-leading materials information management system.**
- **Support for test data management is a core focus.**
- **Capture and manage test data. Analyze that data to generate robust properties for design and simulation.**
- **Ensure full traceability and auditability throughout the process.**

/ Key Benefits

- Avoid hours wasted looking for data and unnecessary repeats of materials tests.
- Maximize use of corporate IP: ensure zero data loss.
- Save costs and reduce time-to-market: multi-million dollar impact for larger enterprises.
- Reduce risk of errors that lead to delays, quality issues or legal liabilities.
- Get more performance from products by optimizing design allowable data.

/ Customer Examples

- Rolls-Royce & Honda case studies speaks about its long-standing use of Ansys Granta MI, in which test data management has been a key component.
- Webinars with Aerojet Rocketdyne and Ansaldo Energia have also covered the use of Ansys Granta MI to support the generation of traceable design data from testing.

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/ The Problem

Materials testing and qualification programs are essential to product development, particularly in sectors such as Aerospace, Automotive, Energy, Defense, Materials Production and Industrial Equipment that use advanced materials for demanding applications or in harsh environments.

These programs generate large quantities of data, often over many years. Legacy data is scattered across disparate sources. Tests are duplicated. A 2015 market survey found 40% of test data was not re-used after initial analysis, although it was often relevant in other projects. When every data point costs thousands of dollars, this is a large avoidable cost.

Other key issues are control and traceability. The ultimate goal of testing is to deliver material property information for use in design. Organizations want to ensure that their design and simulation teams use approved, consistent, accurate data. In some sectors, this includes enforcing standard workflows to statistically-derive 'design allowable' property values. And every enterprise wants it to be easy to inspect the raw data and analyses that supported their design decisions and calculations.

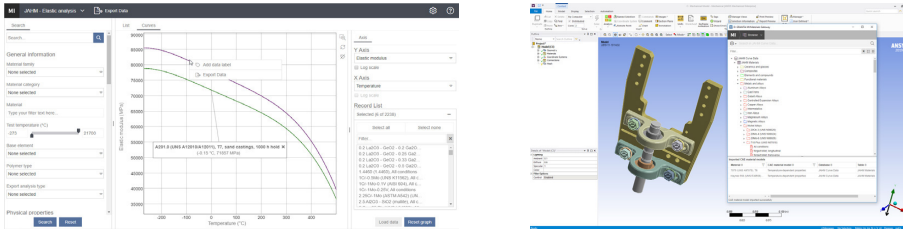
Finally, when engineers want to push materials to their limits, they need confidence that they can access and apply all relevant data about those materials.

/ The Ansys Granta Test Data Management Solution

Manage test data with traceability

Ansys Granta enables user organizations to build and maintain a central database for proprietary materials data from testing, QA and research. Capture and manage all data and its inter-relationships. Control access. Manage change. Support robust testing and qualification processes. Guarantee traceability. Features include:

- Template databases (e.g., for metals, composites, AM): start with best practice data structures and tools, then configure them to the exact needs of the organization
- System maintenance via easy-to-use web apps: e.g., adapt schema, or control interaction with the data through access and version control features
- Flexible data import from test machines and other sources: via simple web apps, more advanced tools for bulk import and processing, or by automating import
- Traceability: capture the relationships between items of data as they are imported
- Workflow tools: build-in systematic test protocols and programs
- Browsing, querying and reporting on the data in the system.



Left: viewing materials data in a web app used by materials engineers. Right: accessing approved design data from within a CAE environment.

Support analysis, to generate robust design allowables

Ansys Granta enables materials teams to understand their data and to process and analyze it to generate vital information. Features include:

- Charting and comparison to explore data and understand properties
- Mat Analyzer app for plotting, curve-fitting and statistical analysis
- Integrate proprietary analysis tools, scripts and workflows
- Capture all analysis results in the database with links to input data and meta-data.

Deploy data for use in design and simulation

Approved data can be released for use by design and simulation, with access control ensuring users only see data appropriate to their role. Deployment options include:

- Access via web apps that can be tailored to specific user groups, enabling users to quickly explore, find and use the data that they need
- Integrated within leading the most CAD and CAE environments enabling direct assignment from the Ansys Granta database in a few button-clicks.

Access valuable reference data on alloys, composites and plastics

Alongside proprietary data, Ansys Granta provides an extensive library of material property data from authoritative reference sources. These include handbook data, such as MMPDS aero alloys, results of test programs, such as NCAMP for composites, and suppliers' datasheets, such as Senvol Database. Use this data to augment, calibrate and validate in-house testing.

/ Sharing Industry Best Practices

Ansys Granta has been developed since 2002 in collaboration with the Material Data Management Consortium (MDMC), a project involving leaders in high tech innovation.



The MDMC has defined best practice in managing and using materials test data and ensured that Granta MI supports this best practice. Members include NASA, Rolls-Royce, Boeing, SAFRAN, Embraer, Los Alamos National Lab, Northrop Grumman, Sulzer and United Technologies Corp.

/ What Do You Buy?

Ansys Granta - Enterprise Server is the core database system, including data import, export and analysis tools.

Ansys Granta - User enables users to access and query the system and use the data via user-friendly web apps embedded in CAD/CAE.

Ansys Granta - Templates provide data structures designed for metals, composites and additive manufacturing.

Advanced Materials - Data Bundles provide access to reference data from the Granta data library.

Ansys Granta - Services are available to help you implement Ansys Granta and integrate with in-house tools and data sources.

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