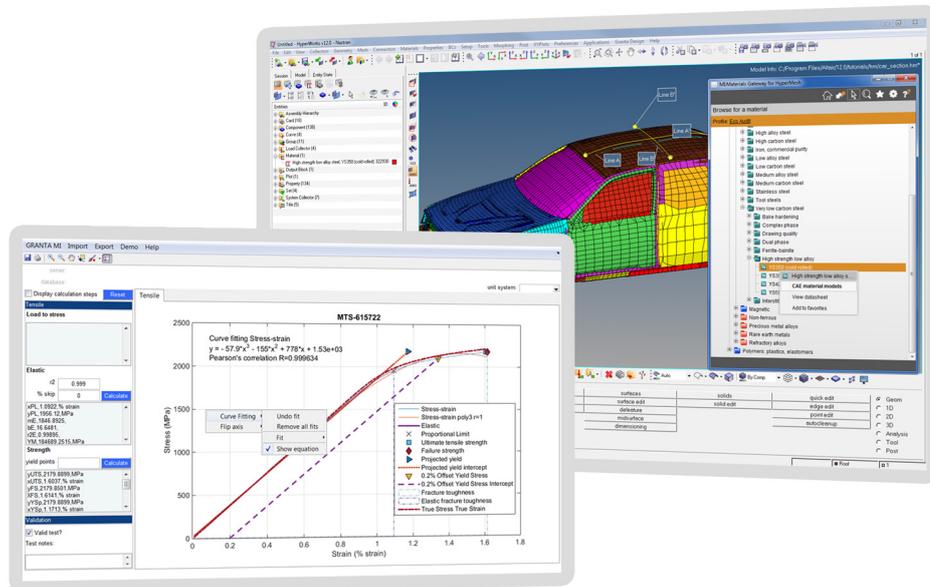


A package of GRANTA MI™ software to manage the full lifecycle for the materials data needed in simulation, from test to simulation model, ensuring traceability throughout.

Save time and cost in simulation with fast access to the materials data that your analysts need, including from directly within leading CAE software. Ensure accuracy and avoid error with tools to support and control data analysis. Protect your investment in simulation and increase confidence in simulation results.



Top: MI:Materials Gateway access to materials data from within a CAE application (HyperMesh).
Bottom: Sample GRANTA MI: Data Analysis App—tensile test analysis.

The problem

Simulation is an increasingly standard component of the product development process. But good simulation is not possible without good data and, in particular, good materials data. Engineering organizations need to find this data or to derive it from test data. This derivation can be complex, requiring analysis of large volumes of test data in order to provide a strong statistical basis for properties across the full range of relevant conditions, followed by manipulation of the results to generate the parameters and coefficients that populate the materials cards recognized by CAE software.

We need tools to make this process efficient and avoid error. It is important to perform these tasks in a systematic, managed way, so that we can avoid the need to repeat analyses, and so that simulation inputs can be easily traced to their source. Once the best possible simulation data is available, it will not be used unless it is made available to the simulation analysts that need it in a manner that ensures they can access it quickly and easily. The MI:Simulation Package meets these challenges.

Key benefits

- Save time and cost through fast, easy access to the data that you need—including direct access within ANSYS®, Abaqus®, HyperMesh®, and NX®
- Support and control data analysis, avoiding errors and maximizing simulation accuracy
- Ensure traceability for simulation data and repeatability for your simulation process
- Protect your investment in simulation and increase confidence in

Case studies

PSA Peugeot Citroën has selected the GRANTA MI software to support its materials information management requirements, with a key focus on delivering reliable, traceable materials data for input to simulation and analysis.

See case studies of how other enterprises use GRANTA MI for simulation at www.grantadesign.com/casestudies

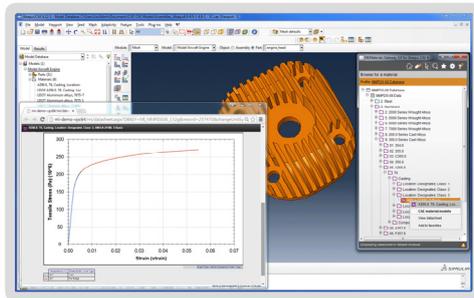
The MI:Simulation Solution

Efficient, accurate derivation of simulation data from tests

GRANTA MI is the leading system for materials information management in engineering enterprises, used by leading manufacturing organizations to manage materials data from testing, research, simulation, and design. You can capture data from test machines, assembling the complete dataset needed to derive accurate simulation inputs. Then apply MI:Data Analysis Apps™ for curve smoothing, averaging, and model fitting. Compare test data and simulation results to help calibrate models and validate analyses. Control the inputs and algorithms applied to ensure that analyses are performed in a consistent, repeatable manner. Results are captured into the GRANTA MI database to use in simulation or further analysis.

Fast access to simulation data, when and where you need it

MI:Materials Gateway™ enables instant access to approved materials data for simulation directly within leading CAE software. Open a window within Abaqus/CAE, ANSYS Workbench, HyperMesh, or NX and connect to your corporate GRANTA MI database. Users can search and browse the available materials,



GRANTA MI:Materials Gateway for Abaqus/CAE.

view datasheets, choose applicable CAE materials models, and then import these models directly to the CAE environment, complete with full traceability information. All of these tasks can be performed interactively and with no risk of error due to data transfer. For CAE systems not yet supported by MI:Materials Gateway, integration is still fast and error-free—export materials cards from GRANTA MI to use within software such as LS-DYNA®, Nastran®, PAM-CRASH®, PAM-STAMP®, Patran®, and RADIOSS®.

Guaranteed traceability gives you added confidence

From test data to simulation software, GRANTA MI ensures data and results remain fully traceable. Test data can be captured with its full pedigree—for example, tensile test results can be linked to data about the material batches from which they were derived. This data remains linked to any simulation models that it is used to create, so it is possible to trace the whole history of the data and analyses that fed into a simulation. This gives confidence in simulation results, makes it easier to run further analyses at a later date, and protects the vital corporate IP embodied in your simulation work.

All the data you need in one place—in-house and reference data

As well as deriving simulation data from test programs, you may wish to find the best materials models from third party reference sources. The Granta materials data library includes data modules that contain simulation data: for example, MMPDS aero alloys, Sheet Steels, and CAMPUS® Plastics. These are available within the GRANTA MI system alongside your in-house managed data and can be accessed for use in CAE in the same way.

GRANTA MI:Data Analysis Apps

GRANTA MI:Data Analysis Apps enable you to analyze the data in your GRANTA MI system—for example, to derive simulation or design data from test results. You can apply algorithms to data or support advanced visualization. MI:Data Analysis Apps are typically written specifically for the data analysis requirements of your organization, either as part of your implementation services, or by your own Matlab or Python programmers using the MI:Scripting Toolkit. From within MI:Data Analysis Apps you can browse and search your corporate GRANTA MI database, find the data that you need, analyze that data in a controlled way using your company's approved analysis methods, and upload the results to the right place in the database for future re-use.

What do you buy?

Core database system:

MI:Server, MI:Toolbox

Tailored data analysis tools:

MI:Data Analysis Apps

User interfaces:

MI:Viewer browser access,
MI:Materials Gateway for CAE

Reference data:

Choose from Granta Data Products

Services:

Getting Started Services



www.grantadesign.com | info@grantadesign.com

UK/World
+44 (0)1223 518895

USA
1-800-241-1546

Germany
0800 182 5026

France
08 00 76 12 90

SIMUL-16-1

© 2016 Granta Design Limited. GRANTA MI and MI:Simulation are trademarks of Granta Design Limited.