

**FOR IMMEDIATE RELEASE:** April 20, 2017

## Matereality Releases Enterprise CAE Material File Management and Authoring Tools for Testing Labs

Matereality has released Version 11 of its software for materials with a toolset for test engineers to capture measured properties, analyze data, and create test reports for distribution. A CAE material file management framework has also been released along with a next generation CAE modeler for material parameter conversion for LS-DYNA, RADIOSS and Abaqus.

**Updated CAE Modeling capabilities:** Simulation is widely used today for new product development and many enterprises need an infrastructure to reliably deliver authorized CAE material files to their simulation users across the globe. Matereality presents a means to manage this process using its CAE Material library. Existing material file repositories within the enterprise can be bulk imported to the CAE Material library where they can be categorically linked to the enterprise materials and tagged by solver and unit systems. Once under the management of the Matereality software, these files can reliably deployed as individual files or as material file libraries to pre-processor software such as ANSYS Workbench, Altair HyperWorks and ANSA. Materials are also released from this same source to Siemens PLM, CATIA and Creo bringing a consistent application of materials information throughout the product development environment.

Material parameter conversion for CAE is a task entrusted to CAE experts in an enterprise. This process is often conducted using a variety of internal conversion processes. A new version of Matereality's CAE Modeler has been released for LS-DYNA, RADIOSS and Abaqus to aid in the mechanics of creation of candidate material cards.

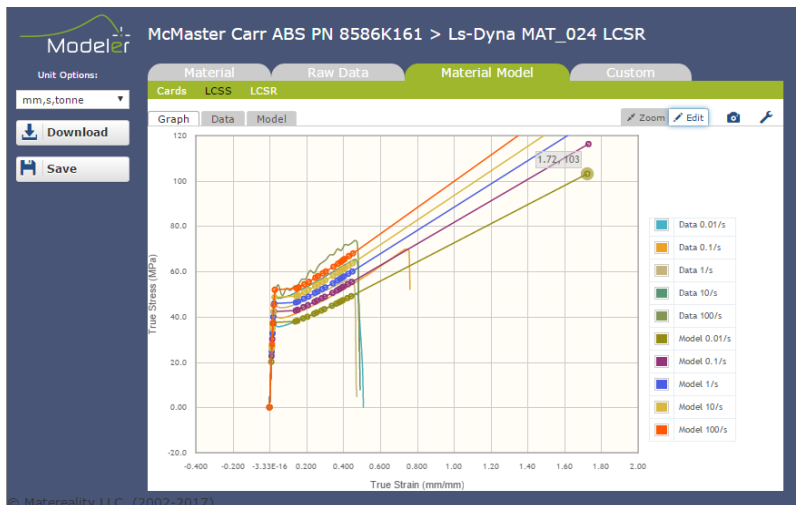


Figure 1 Visual evaluation of extrapolated material model overlaid on experimental data

Drawing upon a robust back-end data model, users have drag-and-drop capability to perform tasks such as model extrapolation beyond tested data, modulus change, rate dependency tuning and failure criteria adjustment, while assuring self-consistency of the underlying material model. Unit system conversions are also facilitated, eliminating error and ensuring that material inputs to simulation correctly reflect the intent of the CAE analyst. These material files can then be validated before use in real life applications.

**New Data Management tools:** Testing laboratories, both within and external to manufacturing enterprises measure material data for a variety of purposes throughout the product life cycle: engineering design properties at the start of the product development process, quality control data, and periodically, property measurements pertaining to the analysis of failures. Matereality provides a robust, scalable infrastructure for storing and analyzing and comparing

such data. Adding test data from a variety of sources is now highly efficient with Matereality's new Excel macro importer which allows the test engineer to create simple data maps to read data from the standard spreadsheets used by the laboratory. Ancillary project-related data files can also be uploaded for archival and safe-keeping, attached to the measured data via a new bulk load feature. Material data once imported is easily analyzed with the Analyzer module where statistical and graphical comparisons replace the use of Excel for such activities. Test reports can be authored using the new Printer module which automatically collates testing information, graphs, data tables and analytics. Explanatory text can be added, graphs rescaled and edited before printing to paper or pdf. Created reports can be added back to Matereality's Reports library and collated to the test data.

**System Extension for Enterprise customers:** At the Enterprise level, system administrators can now create customized search apps and dashboards. Combined with pre-existing technology, they can now create unique experiences by positioning combinations of apps to present materials information and tools needed by the different kinds of users within the enterprise. These tools continue Matereality's mission of providing infrastructure software and tools for engineers to work with material information across the enterprise. Companies now have a single platform for management of materials specifications, simulation material files and test laboratory data allowing consistent and traceable use of this data across the enterprise.

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## About Matereality

Matereality® Software for Materials gives manufacturing enterprises the means to build a centralized, secure materials knowledge core to store properties, CAE material files, specifications, and material information on any material. The built-in suite of web-based software helps engineers visualize and understand material data, create CAE models and manage materials information. The company also operates private and public material databases on the cloud with scaled solutions for different needs, budgets and company sizes: a Personal Database for the single user, a Workgroup Database for small groups, and Material Data Servers for the enterprise.

Matereality is the software arm of DatapointLabs Technical Center for Materials, which provides accurate material testing, material parameter conversion and validation services for CAE, allowing companies to populate their databases with high-quality, application-ready data for design and new product development. Together, the companies form a comprehensive resource to strengthen the materials core of manufacturing enterprises.

For more information, visit [www.matereality.com](http://www.matereality.com), telephone +1-607-257-1784, or send email to [info@matereality.com](mailto:info@matereality.com).

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