

# Materials Information Technology for Wind Power

- Manage critical materials information from testing, QA, research, design
- Ensure that materials data is searchable, traceable, consistent, up-to-date
- Provide materials data to designers, when and where they need it
- Make better materials decisions, balancing cost and performance
- Get the best available reference data on composites and steels

## Example customers

- Suzlon
- Vestas Wind Systems A/S

Read a customer case study on our website



[www.grantadesign.com/solutions/energy/case.htm](http://www.grantadesign.com/solutions/energy/case.htm)



Growing demand for wind energy is driving the development of bigger, lighter, and more cost effective turbine blades and towers, together with more efficient and reliable drivetrains. The materials information required to lead innovation in this area is complex to manage and use, covering advanced characterization, analysis, and certification. It is often dependent on factors such as geometry and process history, which can be specific to each application.

**Granta Design** are the materials information technology experts, empowering materials scientists, engineers, and designers by ensuring this full range of data—from external reference sources to results of in-house materials testing (e.g., blade compression, fatigue, rheology)—is stored in a single, traceable, and fully searchable system. Deploying and using this information efficiently throughout your entire enterprise enables better and faster innovation that improves product performance and reduces risk and costs.

## Enable a fast, effective iterative design process

Failures at design reviews cause delays. The materials data management capabilities of GRANTA MI™ can help reduce variation in design, simulation, and modeling by providing accurate, consistent, and approved materials data to engineers and designers, when and where they need it.

## Balance cost and performance

When you harness your corporate materials knowledge and data in a single, secure, and searchable system, you reduce the need for costly retesting and save time accessing critical information. This helps you effectively balance cost and performance as you push the boundaries of material capabilities.

## Improve product reliability

Unplanned product failures and down-time can create a negative image of your product, decreasing its value. GRANTA MI promotes better material understanding, allowing for more accurate prediction of life-span and service intervals. With full traceability of materials data and analysis from in-service testing back through production, quality assurance, design, and materials testing, problems can be thoroughly investigated and product improvements tracked.

## Support wind energy certification

Efficient capturing and reporting on the pedigree of data (test methods, test data, constituent materials, and processing information) supports compliance with wind turbine standards (such as IEC Type Certification system, IEC 61400-22/IEC WT 01, and guidelines from DNV and GL).

# Granta's solutions for wind power

## GRANTA MI

Materials data is mission-critical in the high performance engineering of wind turbines. You need to capture and retain data from sources such as materials tests and quality assurance. You need to deploy up-to-date, accurate data to designers and engineers in a secure, controlled, but easily usable manner. And data must be fully "traceable". The **GRANTA MI** software system is developed as a best-practice solution to these challenges through collaboration with top aerospace, defense, and energy enterprises in the Materials Data Management Consortium.

## GRANTA MI:Composites Package

Granta can provide you with best practice composite data management, helping you retain and re-use knowledge from testing, QA, research, and design, maintaining all of your composite data and analysis (e.g., STAT-17) in one place. It also provides easy access to trusted reference data: CMH-17, NCAMP, AGATE.

## GRANTA MI:Steels Package

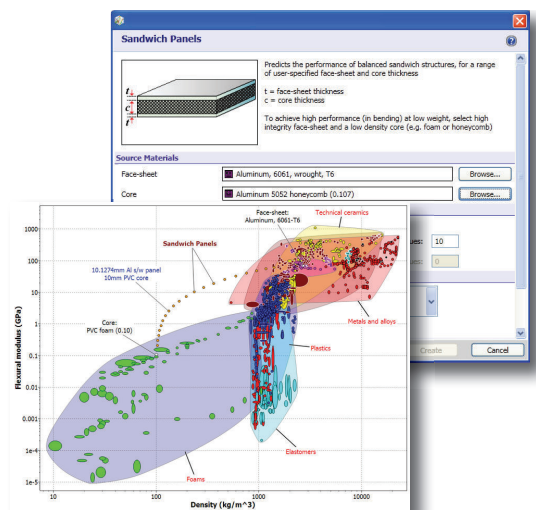
The **GRANTA MI:Steels Package** enhances core materials data management capabilities with easy, cost-effective, enterprise-wide access to key steels references including European steel standards and temperature-dependent properties from the authoritative Stahl-Eisen-Liste, and chemical, mechanical and physical properties of steels from The Welding Institute (TWI) and the World Metal Index (WMI).

## GRANTA MI:Materials Gateway

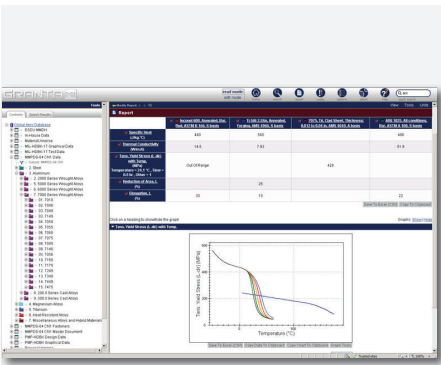
**GRANTA MI:Materials Gateway** integrates materials information technology with other engineering and business systems—computer-aided design (CAD), computer-aided engineering (CAE), or other product lifecycle management (PLM) tools. It lets you access and use corporate materials data within your CAD, CAE, PLM and other systems; deploy accurate, up-to-date, approved materials information to engineers and designers within their routine workflows; and embed new tools (e.g., to search materials data, select materials, or enable eco-design) in your design and engineering software.

## CES Selector

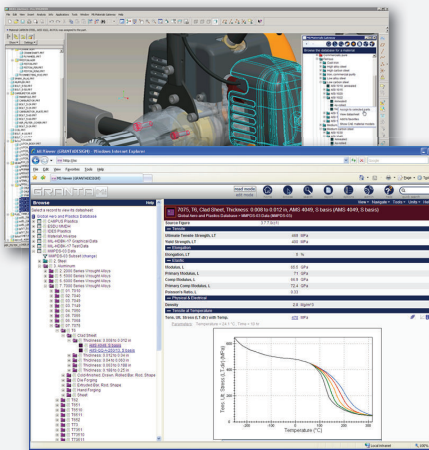
**CES Selector** is our powerful PC-based software that aids critical decisions on materials, processes, and eco design, with features for lightweight design, including predicting the properties of hybrid materials and structures. It enables rational materials selection through unique tools and datasets, helping you to choose the right materials and processes for your application. **CES Selector** optimizes performance, cost, and environmental properties.



*CES Selector allows you to quickly and clearly visualize material properties and select the best materials for a particular application.*



*GRANTA MI captures all of your critical materials information in a single, shared system, enabling materials scientists to analyze properties and publish certified information for use by engineers. In this screenshot a user is viewing the organization's materials database and reporting key properties for a selection of materials in table and graph form.*



*Data stored, analyzed, and viewed within GRANTA MI—such as the materials property on this datasheet (front)—can be easily accessed within computer-aided engineering tools with GRANTA MI:Materials Gateway (back).*

**Ask for a software demonstration or get more information on our website**



**[www.grantadesign.com/products/](http://www.grantadesign.com/products/)**

**GRANTA**  
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