# MaterialCenter

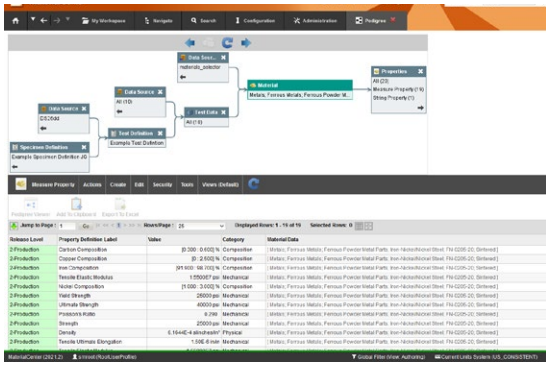
## Materials lifecycle management

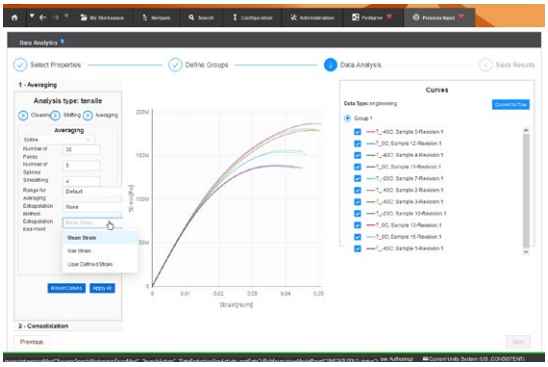
MaterialCenter is a Materials Lifecycle Management System designed to link material specialists to mechanical simulation. MaterialCenter captures data from integrated processes to ensure full traceability across the enterprise and throughout the product lifecycle. It addresses unique process and data requirements and drives product innovation in complex materials such as alloys, elastomers, plastics, composites, and many more. MaterialCenter works directly with many commercial CAE products and delivers on-demand commercial databanks to engineers across the industry.

Drawn from the collective experience of the world's largest OEMs, MaterialCenter is the single point of entry for all materials related activities including physical test data entry and reduction, multi-scale materials modelling, approval workflow and the export of simulation ready data to analysis. This guarantees that engineers are using a consistent source of approved materials derived from traceable integrated processes, resulting in improved simulation fidelity, reduced data loss and elimination of tedious manual data management activities.

Reducing development time and cost of composites materials is on the main agenda for all organisations to remain competitive and to penetrate markets. A powerful tool to achieve that is Integrated Computational Materials Engineering – or in simpler words – simulation to predict and virtually test composite materials. Furthermore, when organisations apply this method, they quickly realise the amount of data that needs to be captured and validated, both virtual (ICME) and physical data for validation. An innovative product integration between MaterialCenter and Digimat can enable this methodology and solve key challenges in this area.

Using MaterialCenter – a powerful data management solution, and Digimat-VA – Virtual materials simulation and prediction solution – together, creates a powerful combination to not only apply ICME to reduce costs and development time by reducing number of physical tests, but also solving a key challenge in the industry to manage the vast amount of data generated and enable comparison, analysis, and validation. For example, qualification of materials will always require physical testing to be conducted, along with simulations. With this powerful integration of two products, comparing both sets of data, keeping traceability and connection, and enabling comparison of properties of both physical and simulation is made effortless.





**Capabilities**

- Dashboards for quick evaluation of materials data management projects and management oversight
- Work request and approval workflow to keep projects on track
- All materials-related processes, input and output are documented via Audit Trail
- Process-oriented, automation approach to data management implemented to minimize manual data entry activities
- Robust and intuitive interface for data search, retrieval, and comparison for all data types – tabular, curves, images, etc.
- Web-based interface to data management processes enables distributed data authoring and maintenance
- Built-in job queue interface optimizes execution of materials simulation processes
- Integration with Excel, Digimat, and 3rd party applications that support materials data processing PDM integration using PROSTEP OpenPDM technology
- Auto-capture of all data transactions
- Web-based configuration that enables fast deployment
- Configurable to support multiple global locations

**Benefits**

- Fast deployment and lower IT support costs
- Reduced data related inefficiencies through use of consistent source of approved materials derived from traceable integrated processes
- Rapid deployment methodology to ensure immediate productivity gains
- Scalable solution that adapts to changing organisational needs and results in lower maintenance and IT costs

## 10xICME solution

The 10xICME (Integrated Computational Materials Engineering) solution will help you save millions of dollars in the material development process. It has been devised to address both business and engineering challenges in the materials development and utilisation process. Developed in collaboration with global OEMs and material suppliers, 10xICME is applicable to a wide range of materials, including plastics, composites, ceramics and manufacturing processes, such as injection moulding, automatic fiber placement and additive manufacturing. We shoot to deliver ROIs of 10x productivity, 10x quality, 10x cost savings and 10x time-to-market.