ICEM Surf Magic

Global Surface Design and Modification

An add-on module to ICEM Surf Professional, ICEM Surf Magic focuses on the design and modelling of complex data objects. Using real time global modelling techniques, existing CAD surface models can be dynamically modelled to any desired shape, independently of their model structure, whilst maintaining the model design intent, surface connections and quality, simplifying engineering-data reuse.

KEY CAPABILITIES

Global Modelling

Surface models can be modelled dynamically (in real-time), via the manipulation of an adjustable reference geometry mesh. Fixed geometry can be defined, whilst any surface connection conditions (tangency etc.) can be maintained. One special feature of this function is that it works without any history. This means it makes no difference whether the data has been generated in ICEM Surf or has been imported. All geometry analysis and topology recognition functions necessary to perform the desired model changes are available within the Global Modelling function.

Dynamic Diagnosis

Dynamic visual feedback of the model changes during Global Modelling, with the help of associated dynamic diagnosis functions such as sections or deviation.

Unified Modelling

In the Unified Modelling environment Global Modelling is connected to the Projection function. This allows the user to model data globally whilst it is simultaneously being projected onto reference data.

Reality Modelling

ICEM Surf Magic in combination with other ICEM Surf modules makes the unique concept of Reality Modelling possible. This means that the user can perform modifications, diagnosis and even dynamic form changes while maintaining full photo-realistic visual representation. This happens without data conversion and from within one single software application.

Import of 2D Models

Digital photos and scanned images in TIFF format can be positioned in the background and can be used as a reference for 3D-construction. The image can either be positioned firmly in the background, or it can be moved and scaled dynamically together with the construction geometry.

Export Functions

The generated geometry can be exported in the Inventor- or VRML-format. The displays are also exportable in Postscript- (or EPS-) format.

Customer benefits

- Dynamic control of global modifications, eliminating the need to deal with individual surface elements mathematically.

- An elegant and intuitive way to work with enhanced display functions.

- Consistent construction and modelling technique from the first draft all the way through to the construction of forms and tools.

- Quick generation and modification of design variants for similar new models and concepts.

- Rapid updating of CAD models to accommodate any changes of referenced physical models.

- Enormous time saving on changes to the entire model construction.

- Additional possibilities for data exchange, leading to better integration with the existing IT-infrastructure.

- Very efficient work based on imported 2D sketches or photos.

- Quick and easy tools for the intuitive visual checking of surface quality.

- The unique design methodology of Reality Modelling* within ICEM Surf becomes available.

Our **3D**EXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit **www.3ds.com**.

3DEXPERIENCE®