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STAR-CCM+ v8: Infinite Possibilities

STAR-CCM+ v8 release specifically aimed at increasing engineering productivity, making the software even easier to use and interact with, and significantly reducing the time required to get a high-quality solution

New York and London. February 27, 2013

> "The STAR-CCM+ v8 [1]releases are specifically aimed at increasing engineering productivity, making the software even easier to use and interact with, and significantly reducing the time required to get a high-quality solution," said Senior VP Product Management Jean-Claude Ercolanelli. "STAR-CCM+ v8.02 [1] is the first of our v8 releases to benefit from our investment in a dedicated User Experience Team, whose task is to dissect and improve every aspect of the software, resulting in more effective and more productive simulation engineers."
>
> "New multi-disciplinary enhancements allow users to tackle a wider range of industrially relevant challenges," continued Ercolanelli. "Among these new features and enhancements is a new STAR-Cast add-on, developed in collaboration with our partner, ACCESS, recognized experts in casting and metallurgy, which provides a comprehensive and intuitive process for performing multiphase casting simulation and brings automation and ease-of-use to casting and foundry processes."

Usability related enhancements include:

- Parts Based Meshing allows users to associate mesh definitions with geometric entities, resulting in greater control, better automation and reduced turnaround time.
- New Surface Preparation greatly reduces the amount of time required to clean-up imported CAD geometries, particularly those that include large assemblies of components.
- JTOpen integration has the potential to cut import times from hours to minutes for large complex CAD assemblies.
- There are also a number of Graphic User Interface (GUI) enhancements.

Performance related enhancements include:

- Lagrangian and DEM dynamic load balancing improves runtimes for applications such as SCR devices, IC engines and chemical sprays by at least a factor of 2.5.
- Improvements to the AMG algorithm dramatically decreases simulation time on high processor count clusters for large scale unsteady simulations such as underhood, aerodynamic, and aeroacoustic analyses

Expanded coverage includes:

- The STAR-Cast add-on is a new streamlined casting simulation process that places industrial strength simulation technology in the hands of foundrymen, casting designers and tool makers.
- The Fluid Film Model can now be used with the Moving Reference Frame (MRF) model to simulate films on objects that move such as pumps and break-disks; and with the coupled solver, which is a key requirement for the aerospace industry. The model can also now be used to simulate icing and de-icing effects using a multi-component melting and solidification model.
- The Eulerian multiphase capability is improved through the addition of interphase and intraphase reactions models, used for tackling problems in the chemical and process industries.
- A new co-simulation capability through coupling with AMESIM, a 1D multi-domain simulation tool, enabling simulation possibilities for hydraulics, IC engines, electro-magnetic and fuel injection systems.

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TEL:045-475-3285 FAX:045-475-3295

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