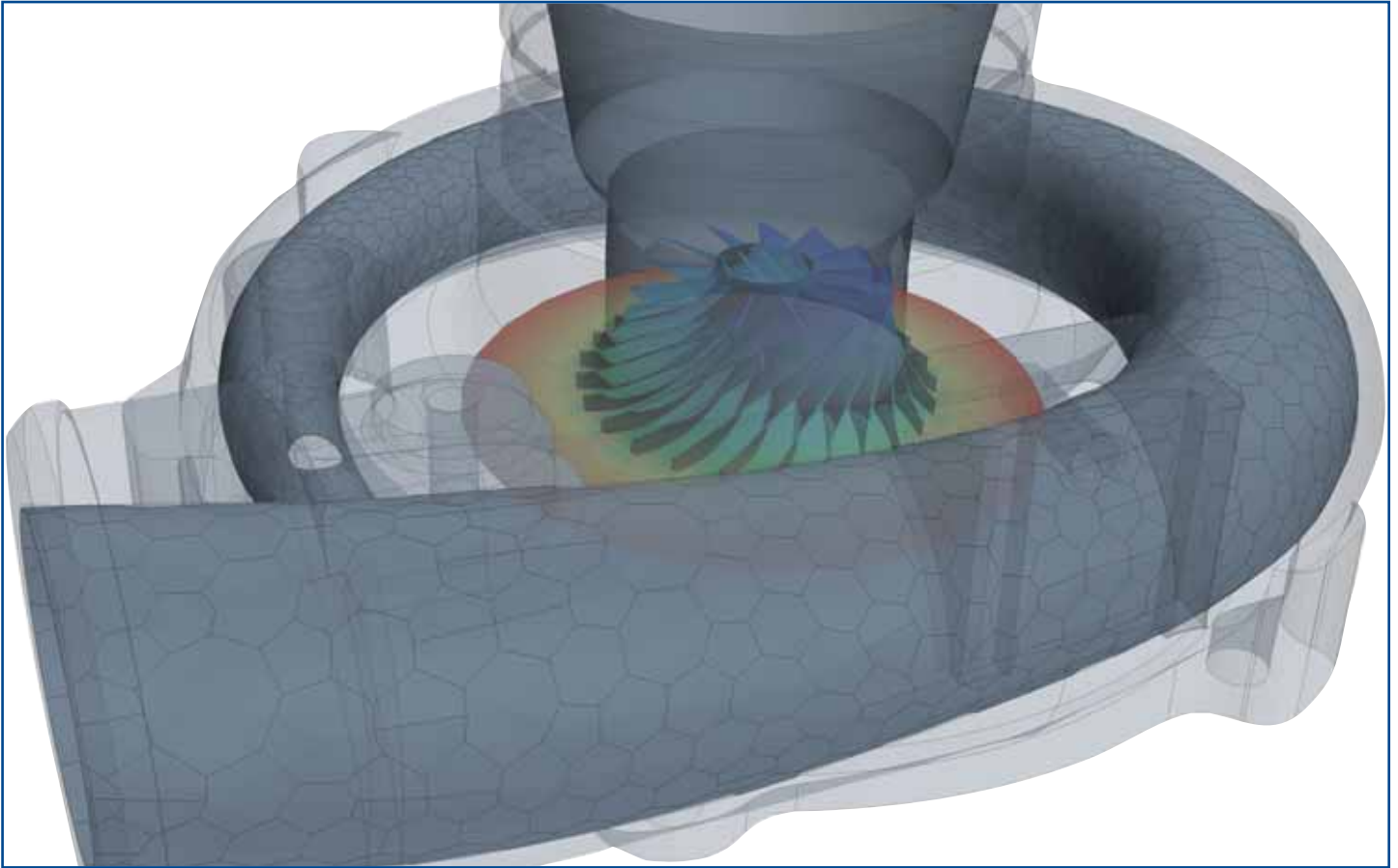


# STAR-CCM+ V2

Now with integrated meshing!



STAR-CCM+ V2 is the second major release of CD-adapco's state-of-the-art CFD package and will now include full surface preparation and meshing technology, in addition to a host of new modeling capabilities.

Following the "from the ground up" philosophy that was the inspiration behind its original development, the mesh generation technology at the heart of the latest release has been rewritten from scratch. The resulting process, from surface import to post-processing, is more robust, more powerful and more automatic than ever.

Starting with a surface representation, a user can now perform a complete CFD analysis without ever leaving the STAR-CCM+ environment:

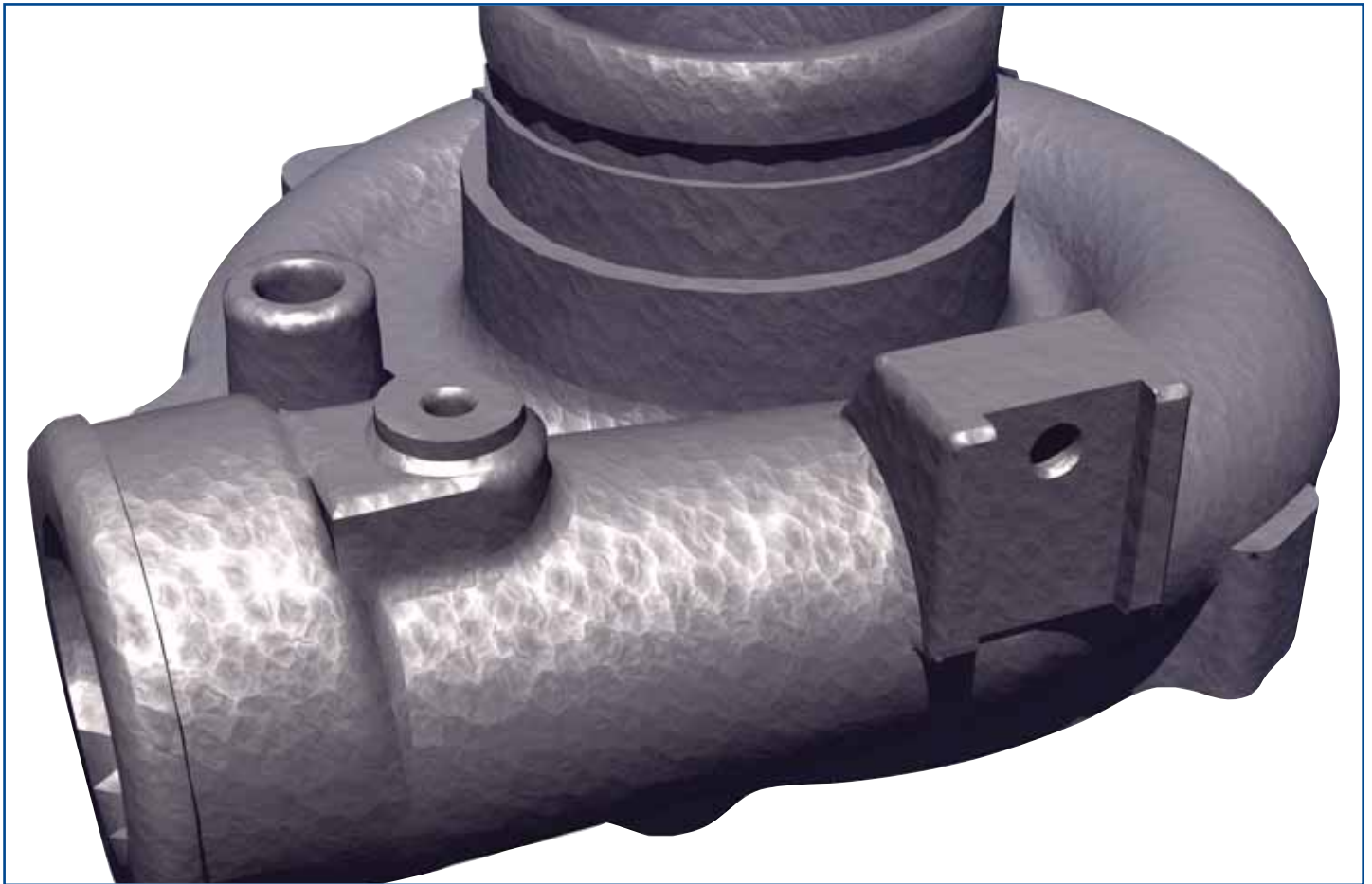
- **Surface Wrapping:** Automatic repair of imperfect or complex CAD using CD-adapco's world-leading surface wrapping technology. The surface wrapper is the most robust method currently available – guaranteeing a closed manifold surface at every wrap.

- **Surface Meshing:** High quality surface triangulations (suitable for polyhedral meshing) can be created automatically from any starting surface using STAR-CCM+ V2's surface remesher.

- **Multi-region meshing:** STAR-CCM+ V2 automatically creates conformal meshes across the boundaries between different regions, such as are required for simulations involving conjugate heat transfer, multiple reference frames or porous media.

- **Polyhedral Meshing:** Users of STAR-CCM+ have long been aware of the benefits of speed and accuracy offered by polyhedral meshes. Now, for the first time, high quality polyhedral meshes can be created from within the STAR-CCM+ environment.

- **Trimmed Cell Meshing:** Improved trimming technology enables trimmed cell meshes to be created from templates of tetrahedra and polyhedra as well as the traditional hexahedra.



The rapid development cycle of STAR-CCM+ has also ensured that V2 will be packed full of new modeling capabilities:

- **Vehicle Thermal Management:** STAR-CCM+ V2 includes integrated heat exchanger and fan models, which together with surface wrapping, make STAR-CCM+ an attractive tool for underhood analysis.
- **Free Surface Analysis:** STAR-CCM+ V2 introduces state-of-the-art free surface modeling, an improvement on the technology previously used extensively throughout the marine industry in COMET.
- **Cavitation:** STAR-CCM+ V2 also builds upon the cavitation technology that was extensively used and validated in COMET.

- **Radiation:** STAR-CCM+ V2 has improved thermal modeling capability with the inclusion of two radiation models: Surface to Surface and Discrete Ordinate.

- **Transition:** STAR-CCM+ V2 allows users the ability to specify location at which laminar to turbulent transition occurs.

- **Combustion:** STAR-CCM+ V2 offers a choice of EBU and PPDF combustion models.

For more advice on applicability of STAR-CCM+ V2 to your cases, please contact your local support office.

STAR-CCM+ 105636

#### Global Offices

##### Americas

**Headquarters:** Melville, NY • [info@us.cd-adapco.com](mailto:info@us.cd-adapco.com)  
**Additional Offices:** Atlanta, GA • Austin, TX • Cincinnati, OH • Detroit, MI  
 Lebanon, NH • Los Angeles, CA • Seattle, WA • Tulsa, OK

##### Europe

**Headquarters:** London, UK • [info@uk.cd-adapco.com](mailto:info@uk.cd-adapco.com)  
**Additional Offices:** Lyon • Nuremberg • Paris • Rome • Turin

#### Asia-Pacific Offices

**Japan**  
 Yokohama • Kobe  
[info@cdaj.co.jp](mailto:info@cdaj.co.jp)

**Korea**  
 Seoul  
[info@cdak.co.kr](mailto:info@cdak.co.kr)

**China**  
 Beijing • Shanghai  
[cdbj@public.bta.net.cn](mailto:cdbj@public.bta.net.cn)

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