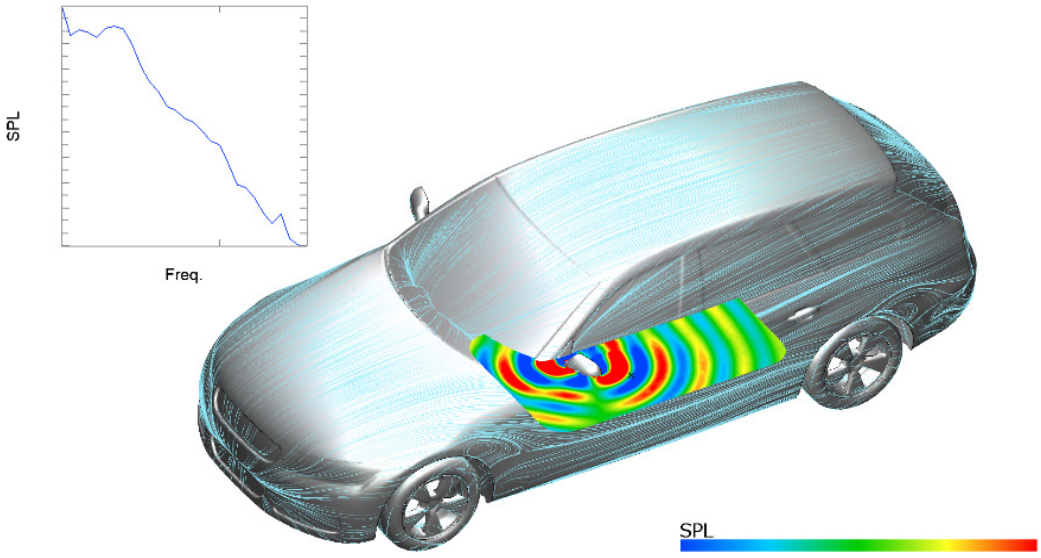
scFLOW 2020



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Welcome to scFLOW 2020

Software Cradle is proud to announce the release of scFLOW Version 2020, a part of the comprehensive suite of virtual product development from MSC Software.

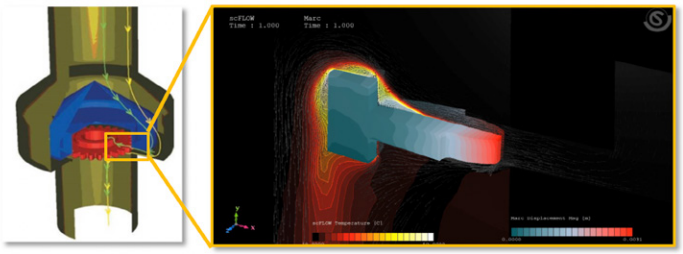
Below is the detail of what's new to scFLOW. For more information, visit our Users Page.

We trust you are now familiar with your software package and the supporting aids and services available to you and thank you for the investment you have made in our virtual product development from MSC Software.

Co-Simulation

Compatible with heat and liquid

scFLOW V2020 supports thermal analysis in Co-Simulation with MSC Nastran and Marc. Coupled liquid-elastic body analysis can also be performed which was once difficult in terms of analysis stability. This will further expand the multi-physics analysis domain.

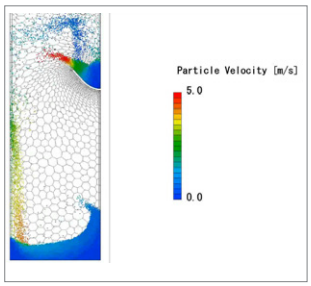


Heat flow & stress displacement analysis by Co-Simulation with scFLOW and MSC Marc

DEM-CFD

DEM (Discrete Element Method) implementation

DEM function has been added to scFLOW. Contact and sedimentation of particles can be considered. DEM-CFD analysis is possible solely within scFLOW, without a need of coupling with external DEM software. Co-Simulation with MSC Nastran, Marc, and Adams is also available.

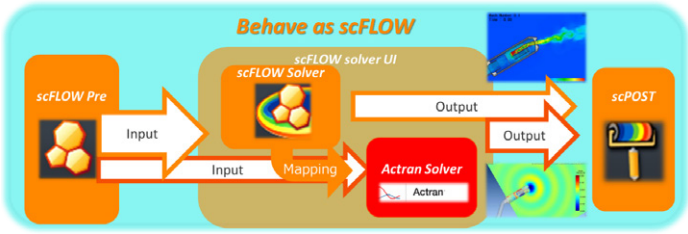


Behavior of particle & spring plate in Co-Simulation with scFLOW DEM & MSC Nastran

Aero-acoustics in Cradle CFD (powered by MSC Actran)

Embedded aero-acoustics thanks to scFLOW2Actran

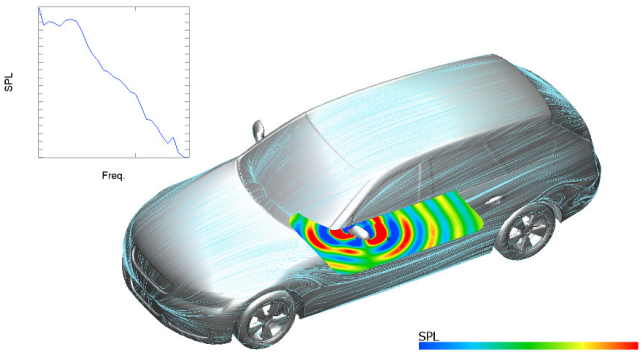
Perform MSC Actran's aeroacoustics analysis within the scFLOW's User Interface, from making analysis settings to generating mesh. The once-independent GUI will automate troublesome tasks such as mapping of the data of a transient analysis.



Visualization solution with scFLOW Postprocessor and MSC products

Enhanced interface integration with scFLOW Postprocessor and MSC products

The calculation results from MSC Nastran, Marc, Adams, Actran can be visualized in scFLOW Postprocessor. The results obtained from Co-Simulation can be displayed in a common draw window, enabling a precise qualitative and quantitative assessment.

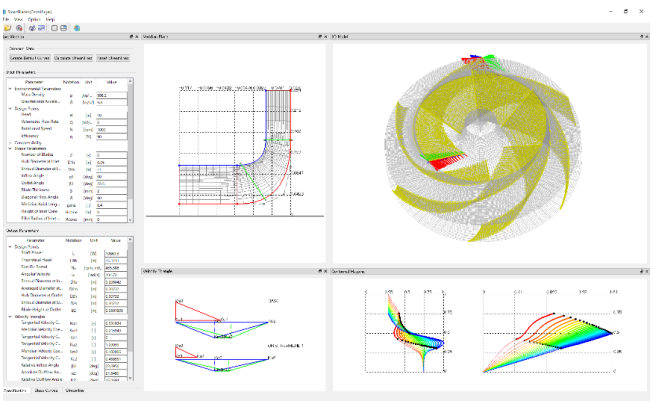


Visualizations of CAA results of the side mirror by MSC Actran on scFLOWpost

SmartBlades (Centrifugal)

SmartBlades for impellers of centrifugal- or diagonal-type

A new blade generation tool has been added to SmartBlades, primarily for centrifugal and diagonal impellers. Create a 3D blade geometry by entering the required specifications including the head, flow rate, and rotation speed.



GUI of SmartBlades (Centrifugal)

New Cavitation Model

Multi-process cavitation model

In a collaborative effort with Professor Tsuda of Kyushu University, this model enables to obtain detailed information that cannot be captured by conventional cavitation models. This allows to predict phenomena such as pressure pulses and cavitation noise.

Additional detailed information

- Mean bubble number density
- Mean bubble diameter
- Mean internal pressure of bubbles
- Bubble coalescence & collapse

Cavitation generated around screw propeller (Volume rendered by bubble radius)

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