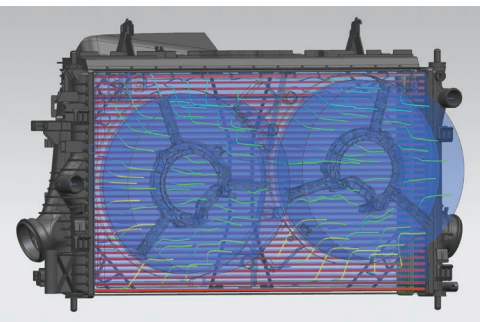
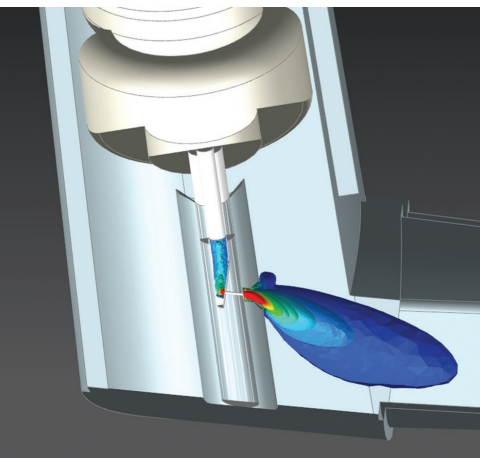
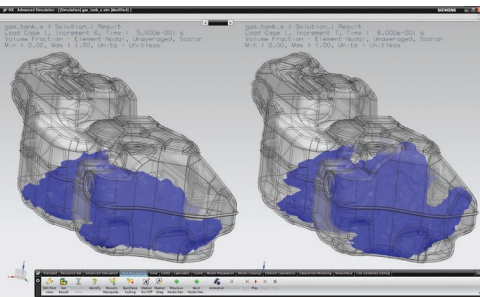




# NX Advanced Flow

## Benefits *continued*

- Track the interface between two fluids in a sloshing problem
- Couple 1D to 3D flow submodels to simulate complex systems



- Multi-species filling (and emptying) and open volume enclosures within the fluid domain
- Parallel computing with up to 8 solver processes on a single machine
- Unlimited-process parallel computing with NX Thermal/Flow DMP add-on
- Fully coupled pressure-velocity scheme applied in parallel solver mode
- Semi-implicit, second-order time integration methods for use in conjunction with LES turbulence model
- Second-order central differencing scheme

## Add-on results postprocessing options

- Mach number
- Humidity and condensation data
- Scalars distribution data
- Additional turbulence data
- Tracking of heavy particles
- PPD-percentage people dissatisfied (HVAC applications)
- Specialized outputs for non-newtonian fluids
- Shear rate/dynamic viscosity output for non-Newtonian fluids
- PMV-predicted mean vote (HVAC applications)
- Track and plot flow data on specific regions at run time
- Acoustic power density result option

## Fluid-thermal multiphysics

NX Advanced Flow seamlessly couples with NX Thermal and NX Advanced Thermal for simulation of complex thermo-fluid interactions and conjugate heat transfer. The thermo-fluid solver handles disjoint meshes at fluid/solid boundaries allowing great flexibility in assembly context

thermo-fluid interactions. The fluid domain and thermal domain do not need to share nodes at the interface; the coupled solver will create the appropriate heat transfer coupling at all the solid/fluid interfaces.

## Fluid-structural coupling

Pressure and shear force results from the NX Flow solution can be used as a pre-stress condition for a structural analysis. The NX Nastran® license is sold separately.

## Supported hardware/OS

NX Advanced Flow is an add-on module to either NX Advanced FEM or NX Advanced Simulation. It requires either a license of NX Flow or NX Electronic Systems Cooling as a prerequisite. NX Advanced Flow is available on the same supported hardware platforms as NX Advanced FEM. Contact Siemens PLM Software for any other specific hardware/OS support requests.

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