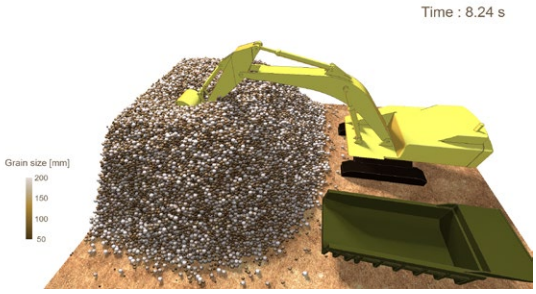
MSC CoSim

Where multiphysics gets real

Co-simulation provides engineers with a unique, more complete & holistic performance insight by coupling together multiple simulation disciplines. Everything from acoustics to multibody dynamics (MBD), to Computational Fluid Dynamics (CFD), to structural analysis, and explicit crash dynamics can be connected thanks to MSC CoSim. Depending on the type of analysis, engineers can use Hexagon's solutions in two ways – Co-Simulation (applying multiple physics to the model simultaneously) or Chained Simulation (passing load case results from one analysis to the next).

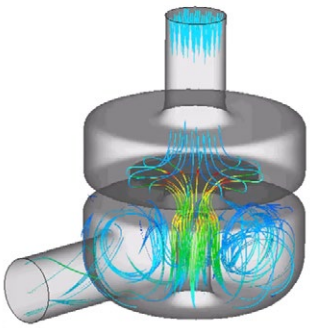
MSC CoSim engine

The MSC CoSim engine has been developed to provide a co-simulation interface for the direct coupling of different solvers/disciplines with a multiphysics framework. The current version, MSC CoSim 2022, enables engineers to set up co-simulation models between Adams, Marc, MSC Nastran, scFLOW and scSTREAM.



Other open co-simulation solutions

Besides the CoSim engine, Hexagon also supports a list of other co-simulation methodologies, including the Functional Mock-up Interface (FMI), Adams Marc Co-Simulation Interface (ACSI) and so on.



Chained simulation

Chained simulation allows CAE engineers from different departments to integrate multiple disciplines sequentially and improve the overall simulation accuracy. For example, passing the road loads data from an Adams Full Vehicle model to the downstream MSC Nastran model for the stress & durability analyses.