

“Meshing Production for Acoustic Analyses”

Sogeti High Tech

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Abstract:

Numeric simulation in acoustics is a rapidly expanding field. However, the calculations remain costly, which in turn limits the extent of their use in design. Within aeroacoustics the use of boundary element codes allows both a realistic geometry and an average aerodynamic flow to be taken into account. This type of code requires triangular meshing with a mesh size which is locally heterogeneous. Even if these calculations are less costly than those with finite element codes on 3D geometries, they are nonetheless expensive at high frequencies and the ratio of calculation time to mesh number rapidly becomes exponential. The use of HyperMesh has achieved a marked reduction in the size of models as well as a significant saving in calculation time for this type of meshing. Additionally, it has enabled numerical studies to be carried out across higher frequency ranges.

Keywords:

- Meshing
- Acoustic Analysis
- Development Process