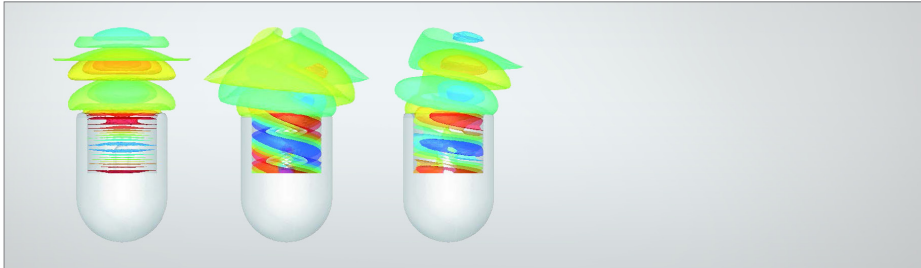


# Actran™ VI

## Dedicated Pre & Post-Processor for the Actran CAE Software Family



### Product Overview

#### Dedicated pre & post-processor for the Actran CAE software family

Actran VI is the graphical user interface (GUI) specifically designed for the pre- and postprocessing of all the Actran vibro- and aero-acoustic analyses. Actran VI is interfaced with numerous meshing tools and can import a large number of different mesh formats (Nastran BDF, ANSYS RST and CDB, Actran DAT and NFF, I-DEAS UNV, PATRAN Neutral Format) into its environment. Its various pre-processing functionalities ease the creation and editing of Actran models. It is easy to visualize specific Actran model features, such as acoustic sources, duct modes, beam's shape, dynamic load, different boundary conditions, infinite elements coordinate system, etc. ActranVI can also read Nastran structure analysis and translate the Nastran properties into Actran properties. The translated Actran analysis can then be enriched with Actran's unique components or loads for acoustic analysis.

Additionally, it is also convenient to define analysis templates (with or without mesh) to ease the creation of recurrent analyses. Scripting can be combined to the ActranVI session file in order to perform parametric studies and optimization.

The post-processing tool supports different results formats, such as OP2, UNV, NFF, RST, HDF and punch files. It contains different visualization modules, such as contour plots (maps), iso-surfaces, vectors or deformations, which can be freely combined and controlled using different filters. Synchronized viewports makes it easy to compare results at different frequencies, phases, times or related to different load cases. An animation module dedicated to complex harmonic results coupled with video export capabilities is also included.

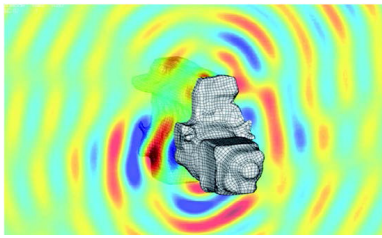
Actran VI includes the PLTViewer and WaterfallViewer modules for easily displaying and handling frequency response functions, in single or multiple loadcases. Finally, frequency response can be converted to audio format and played in an audio player.

### Target Applications

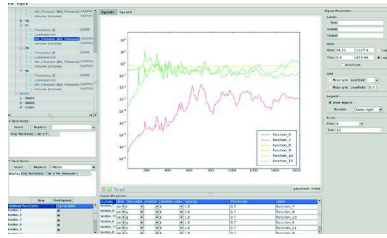
- Validation, visualization and modification of existing Actran analyses
- Creation of new Actran analyses
- Display of all Actran results
- Enrich Nastran analysis into Actran vibro-acoustic analysis
- Process automation & optimization

### Key Features

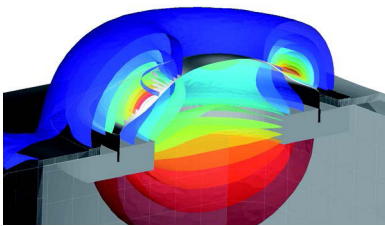
- Support of all Actran features for the creation and editing of Actran analyses
- Support of different mesh formats such as BDF (MSC Nastran), OP2 (MSC Nastran), UNV, RST (Ansys), CDB (Ansys), NFF & DAT (Actran) and Patran Neutral Format
- Support of different results formats such as OP2, UNV, NFF, RST, HDF and Punch
- Reading Nastran structure analysis, translate and enrich into Actran vibro-acoustic analysis
- Visualization of Actran specific features
- Visualization of the projection quality for incompatible meshes
- Visualization of acoustic meshing quality
- Synchronized viewports for results and analyses comparison
- Analysis templates for semiautomatic model creations
- PLTViewer and WaterfallViewer tool for easy display and handling of frequency response functions
- Contour plots, iso-surfaces, vectors and deformations features responding to the specific requirements of the acoustics community
- Multiple cut-plane filters for visualizing results within a mesh
- Animation module dedicated to complex harmonic and transient results
- Video export from map results
- Convert frequency responses to audio files



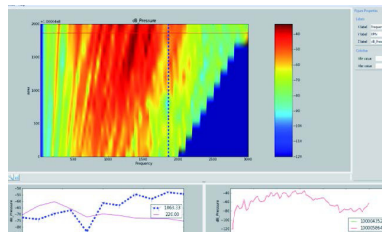
Visualization of pressure map around a gearbox



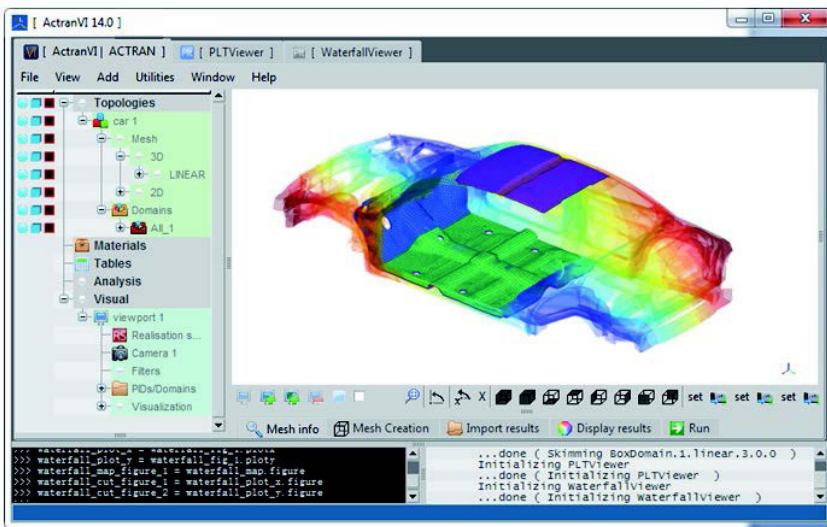
The PLTViewer tool is very useful for plotting FRFs, comparing experimental data to results, etc.



Combination of deform, grayscale map and isosurfaces modules



Waterfall plot of SPL from a gearbox working at different RPM's



Overview of Actran VI GUI

### Actran Software Suite

Actran is a complete acoustic, vibro-acoustic and aero-acoustic CAE software suite. Empowered by the technologies of finite/infinite element methods (FE/IFE), as well as the Discontinuous Galerkin Method (DGM), Actran provides a rich library of materials, elements, boundary conditions, solution schemes and solvers. Actran is a high accuracy, high performance and high productivity modeling tool suiting the needs of the most demanding engineers, researchers, teachers and students for solving the most challenging acoustic problems.

### Free Field Technologies (FFT)

Free Field Technologies is focused on three main areas:

- Developing Actran software for acoustic, aero-acoustic and vibro-acoustic simulation;
- Providing technical services, support, training and delivering acoustic engineering projects;
- Researching innovative technologies and methods of acoustic analysis in order to remain the leader in acoustic modeling.

Free Field Technologies has more than 250 customers around the world active in the Automotive, Aerospace, Shipbuilding, Electronic and Heavy Equipment industries as well as in the Educational and Research sectors.

FFT is a wholly owned subsidiary of MSC Software Corporation.

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