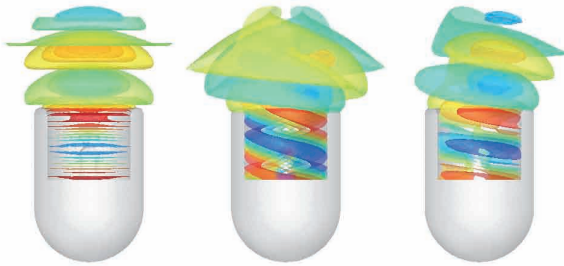


# Actran VI

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 post-processing of all the Actran vibro- and aero-acoustic analyses. Actran VI 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 and features its own meshing tool specifically designed for generating, modifying and improving meshes for vibro- and aero-acoustic analyses. Its numerous meshing functionalities include surface and volume operations such as shrink-wrap and mesh-on-mesh surface generation or tetrahedral volume creations. It also features several editing tools allowing fast and easy improvements of the acoustic mesh.

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
- Import, edit and creation of acoustic meshes

## 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 semi-automatic 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 and video export from map results
- Convert frequency responses to audio files
- Dedicated meshing tool for acoustic analyses

## 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)

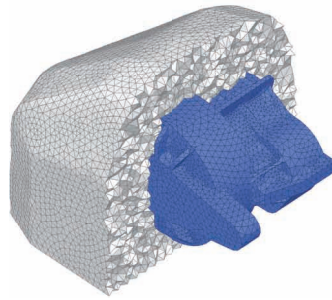
Free Field Technologies is focused on three main areas:

- 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 for efficient and accurate acoustic analysis.

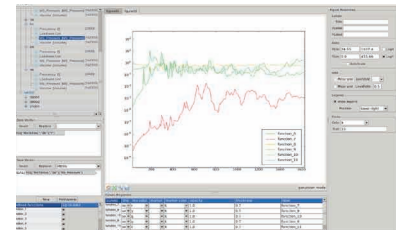
Free Field Technologies is the technical leader in acoustic CAE and with a wide range of customers around the world active in the Automotive, Aerospace, Shipbuilding, Electronic and Heavy Equipment industries as well as in the Educational and Research sectors.

FFT is a wholly owned subsidiary of MSC Software Corporation.

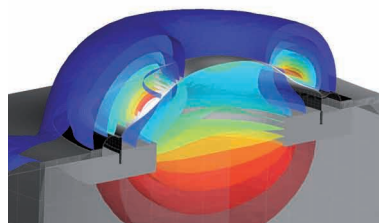
[www.fft.be](http://www.fft.be)



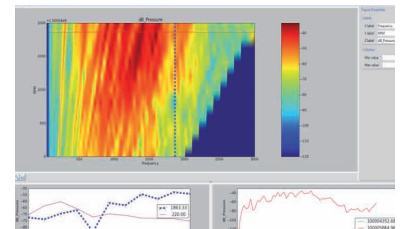
Cut-view of an acoustic mesh generated by Actran VI



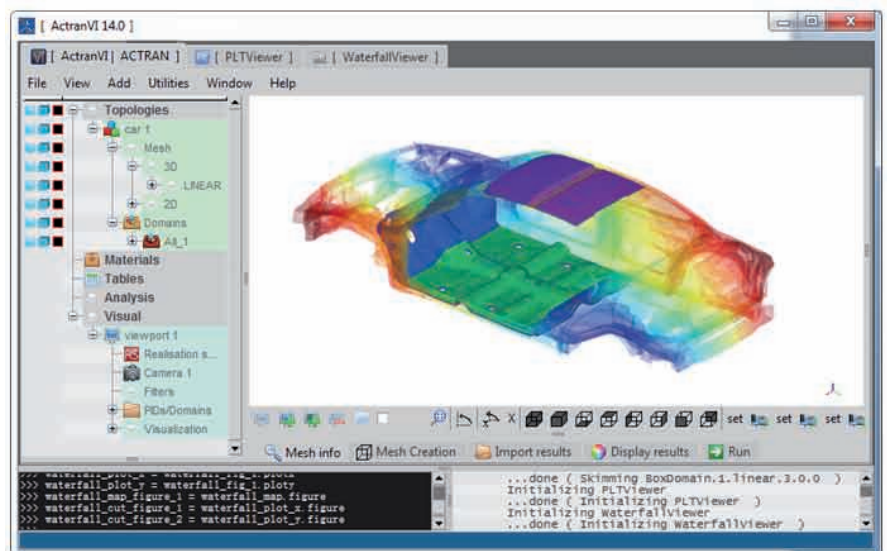
The PLTViewer tool is very useful for plotting FRFs, comparing experimental data to results, etc.



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

View Actran videos on 

FREE FIELD TECHNOLOGIES (HQ)  
a division of MSC Software Belgium SA

Rue Emile Francqui 9  
1435 Mont-Saint-Guibert  
Belgium

T +32 10 45 12 26  
[www.fft.be](http://www.fft.be)

