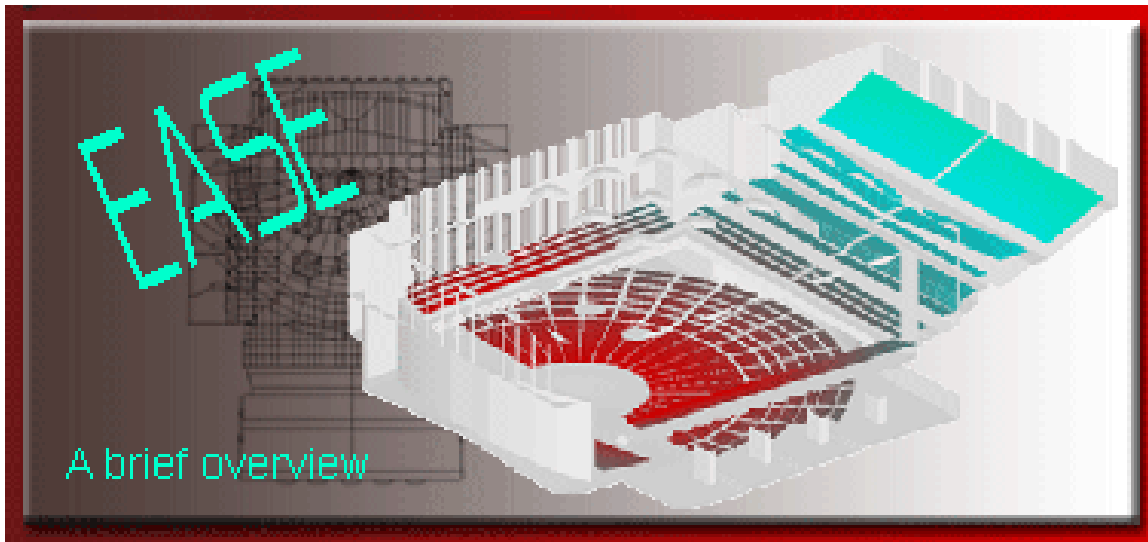# EASE (Electro-Acoustic Simulator for Engineers)

Check out the EASE Website: http://ease.afmg.eu/

EASE is the industry-standard software that allows the creation of a 3-D acoustic model of any room and the simulation of a sound system in that room.

First the room data is entered. This includes all 3-D points that reference surfaces in the room. Then data for the acoustic absorption of the materials that are on the walls and other surfaces are added to the model. From this data, reverberation times and other acoustic parameters can be calculated. These results are then used to test various modifications that might be made to improve the acoustics.

Next, the fun begins. Loudspeakers are added to the model at locations consistent with the system design. Data for the 3-D frequency response is provided by loudspeaker manufacturers, and is part of the EASE database. Then, using the power of the computer, a complex impulse response is created from any loudspeaker or system of loudspeakers to any point in the room. This information can be expanded to allow the designers to evaluate all areas of importance. The designers then study the uniformity of distribution of sound over the listening area, as well as how much sound returns to the stage. And since the acoustics of the space have been computed, predictions of speech intelligibility can be mapped as well.

All this can be accomplished before any money is spent on equipment, which may or may not provide the desired solution. A fraction of the money spent on the wrong solution can easily pay the fees of the professional design team, and save months of grief.