Standards Supported
- ISO 3382 series – Performance places, ordinary rooms, open-plan offices.
- ISO 14257 – Workplaces.

Open Room
Room geometries can be imported from most CAD systems in the .DXF or .3DS format.

SketchUp Plug-in
Download a free plug-in for importing models directly from Trimble SketchUp (www.sketchup.com) to ODEON.

Sound Sources
Point sources are described by a directivity pattern, a power spectrum and a delay, allowing the definition of natural sound sources as well as loudspeaker systems. Array sources can be imported from an extensible XML-format or can be created from point sources within the ODEON array source editor.

Methods
ODEON makes use of hybrid algorithms, highly optimized for maximum accuracy at modest calculation time. Early reflections are calculated using the Image Source Method, while late reflections are simulated by a technique called Ray Radiosity, with secondary sources placed at all reflection points. Scattering/diffraction is handled properly using the Reflection Based Scattering method.

Free Trial
Try ODEON without time limitations: www.odeon.dk/free-demo-version.

Materials
The room surfaces are assigned materials, with absorption coefficients for the octave bands from 63 Hz to 8000 Hz, as well as scattering and transmission properties.

Grid Maps
Maps of calculated acoustic parameters are shown for any number of selected receiver surfaces.
Job List

The Job list is where calculation of point responses and auralisation results are organised and displayed. Point responses, multi-point responses, grid maps and reflection paths can be calculated in the job list.

Reliable results

The frequency-dependent reflection based scattering method in ODEON is one of the reasons for excellent agreement with measurement results. In this example simulated and measured clarity $C_{80}$ at 500 Hz is shown for the Elmia concert hall.

Measuring system

Measuring and simulating room impulse responses can be done from within the same software! ODEON version 12 is equipped with a powerful measuring system that allows the user to measure impulse responses in a room, calculate the ISO 3382 room acoustic parameters and make comparisons with simulations.

Auralisation

Listen to the rooms and demonstrate predicted acoustics to clients, as it sounds in reality. Auralisation works both for headphone and surround system reproduction.

Ordering Information

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