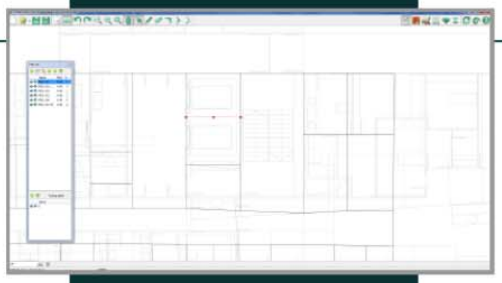
SONarchitect

Sound insulation computation in the entire building according to EN ISO 12354 parts 1,2,3,4 and 6

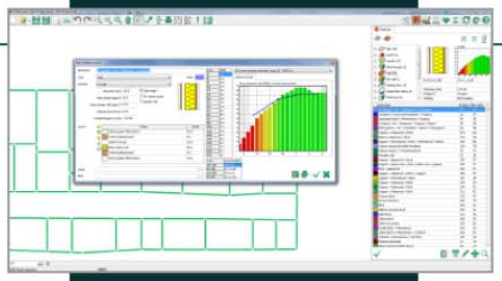
SONarchitect ISO features

Draw the building



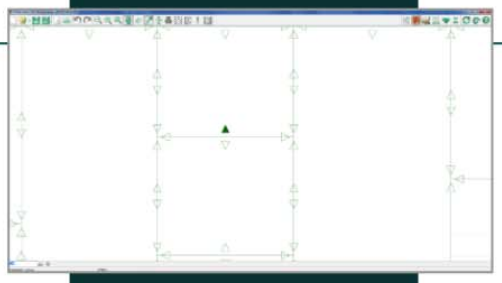
Working plan by plan you will be able to model the entire building. Create, copy, edit and arrange your plans to create a building. Create multiple floors from a unique plan. Import selected layers from DXF files to use them as templates. Enclosures are automatically generated by crossing lines. Smart drawing tools stick to corners, centers and lines, force local and global orthogonals and allow precise angles and lengths. Take references within the current plan, other plans, or templates. Draw as many walls per room as you need without any geometrical restriction.

Materials



SONarchitect has a multi-catalog interface with a material database. You can add your materials from custom tests or even calculate your own insulating solution. The built-in SONmultilayer engine allows the prediction of the sound insulation of multilayer solutions. Alternatively, the SONsolver module uses selected formulas to model the acoustic insulation of custom materials. With two clicks assign roofs, slabs, walls, linings, façades, doors, windows, ventilations, blinds, floating floors, suspended ceilings for sound insulation. Add sound absorption finishings to walls, ceilings and floors to control reverberation times. You can change them easily any time later to improve and optimize the acoustic performance of your building.

Junctions

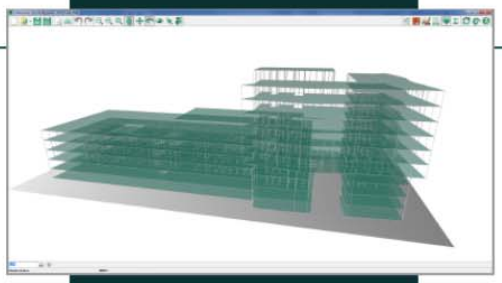


A critical issue in the computation of the sound insulation between two rooms, the selection of the vibrational reduction coefficient, is automatically solved (T-junction, cross-junction, light materials..) You only need to specify if you want to include elastic bands in specific junctions. Just click the corresponding symbol besides your junction to switch the elastic band on and off.
You can insert elastic bands in slab to slab, slab to wall, and wall to wall encounters.

Types and uses

You can assign rooms to units and specify the type of use of each room. Configure insulation limits from your local Building Code or according to your own quality requirements for each type of room.
Let SONarchitect check every pair of rooms among use units against your set of limits to verify the compliance of your design. Store limit sets in configuration files for different regions, jurisdictions, quality standards or types of projects.

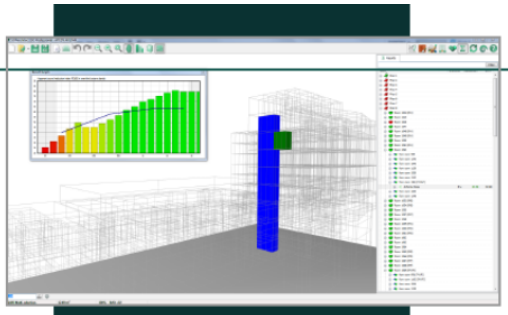
3D model



Unleash your architectural skills. Check the geometry of your building before any acoustic computations. Create patios, elevator shafts, multiple-height rooms and tunnels. You can virtualize slabs and roofs with a click in the 3D model.
Navigate through your building, create attractive views to show to your clients together with the results of your acoustic insulation computations.

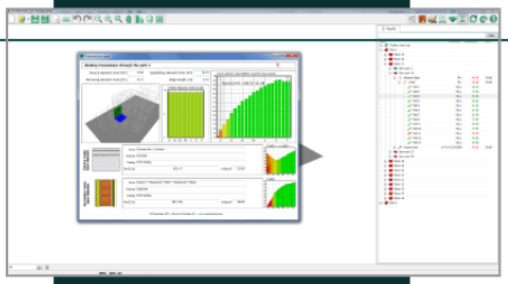
SOUND OF NUMBERS

All the acoustic insulation levels



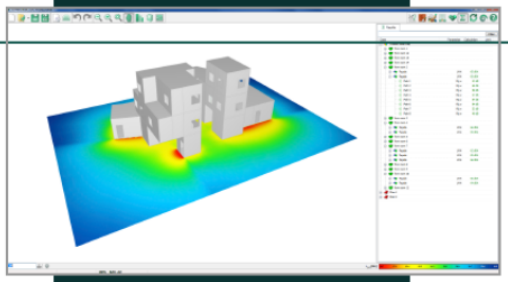
Airborne sound insulation, impact sound insulation, façade insulation, noise emission and reverberation times. SONarchitect computes all the acoustic insulation levels in the building in a few seconds and checks them against the limits you have defined. The results are displayed in a tree that you can browse by floor, room and type of noise (airborne and impact). Get visual feedback with a single click that brings you to the right spot within the 3D model of your building, and check every sound insulation value between the room and all the adjacent rooms. Red rooms do not comply with your limits, green ones do.

Solving problems: Path inspection



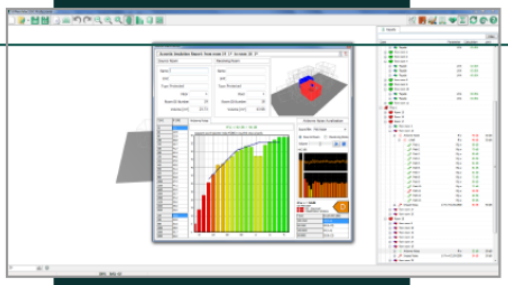
Dozens of acoustic paths intervene in the computation of the acoustic insulation between two rooms. The result tree lists every transmission path with the corresponding contribution. Check any transmission path, see it in the 3D model and, if you are not satisfied with the acoustic performance, go to the weakest transmission path and correct it: the pressing of a key will take you to the material assigner to change the constructive solution and recalulate. A few seconds suffice.
No more troubles figuring out what elements to modify in complicated encounters.

Emission noise map



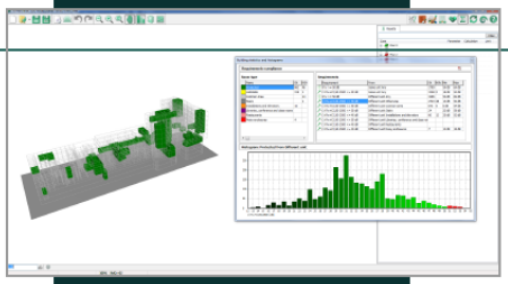
If your project includes noisy enclosures such as restaurants, bars or industrial activities, SONarchitect lets you evaluate the environmental impact of your building.
Define the noise emission of any noisy enclosures inside your building according to the type of room or activity, and get a noise map according to EN ISO 12354:4. Select whether you want to see the general map or the contribution of a given noisy enclosure or even the contribution of a specific façade.

Auralization



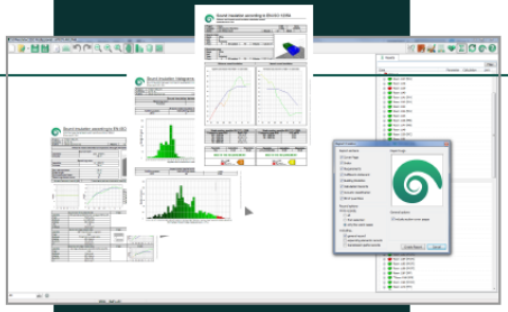
Get a subjective experience of the acoustic performance of your building with the auralization engine, directly accessed from the result tree. Play one of the built-in tracks or your own recordings in any room of your choice and hear how they would sound in the adjacent rooms compared to the emitter room. You only need a good pair of headphones. The auralization is accompanied by a chart of the one-third octave band acoustic insulation levels and the details of the rooms. An acoustic quality label shows the level of acoustic comfort according to one among acoustic quality classification schemes of nine countries. More schemes will be timely added as regulations evolve in other countries.

Acoustic quality



Optimize your acoustical design. Get real insight of the acoustic performance of your building. Computing acoustic insulation in the entire building does not only save you time and give you confidence, but it also allows a thorough analysis of the acoustic quality of your project. Get histograms with the distribution of the acoustic insulation levels in the entire building for all rooms or specific pairings of types of rooms. Click any bar in the histogram to automatically visualize all rooms within the corresponding insulation levels. This gets you easily and quickly to the worst performing enclosures in your building. Or to the best ones. Or the most representative ones. Your choice. Thus you can act there where you really want to. And your client will spend more only where he wants to.

Customizable report generator



Print the results you want and the way you want. SONarchitect provides a flexible report generator. Add your enterprise logo, select a cover image with the 3D model of your building, get a bill of quantities for your budget estimations, include a compliance statement, show the quality classification of your building, detail every computation result including components and transmission paths. Or none of them. You can select individual rooms or let SONarchitect select only the worst cases: Yes, indeed, you have computed the acoustic insulation in the entire building, therefore you know they really are the worst!

Orders and information
www.soundofnumbers.net