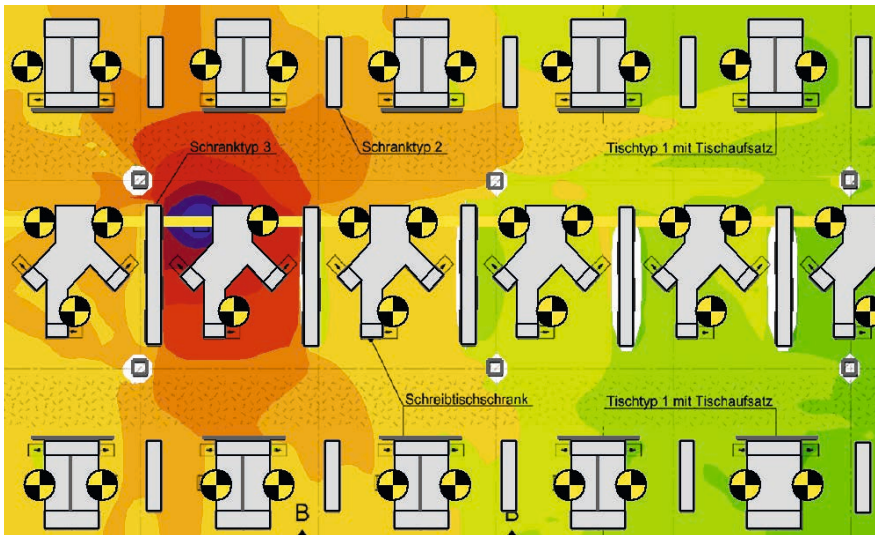
SoundPLAN® noise



Highlights SoundPLANnoise 8.0

All new features and improvements are free of charge for existing users owning the relevant modules and with a valid maintenance contract!

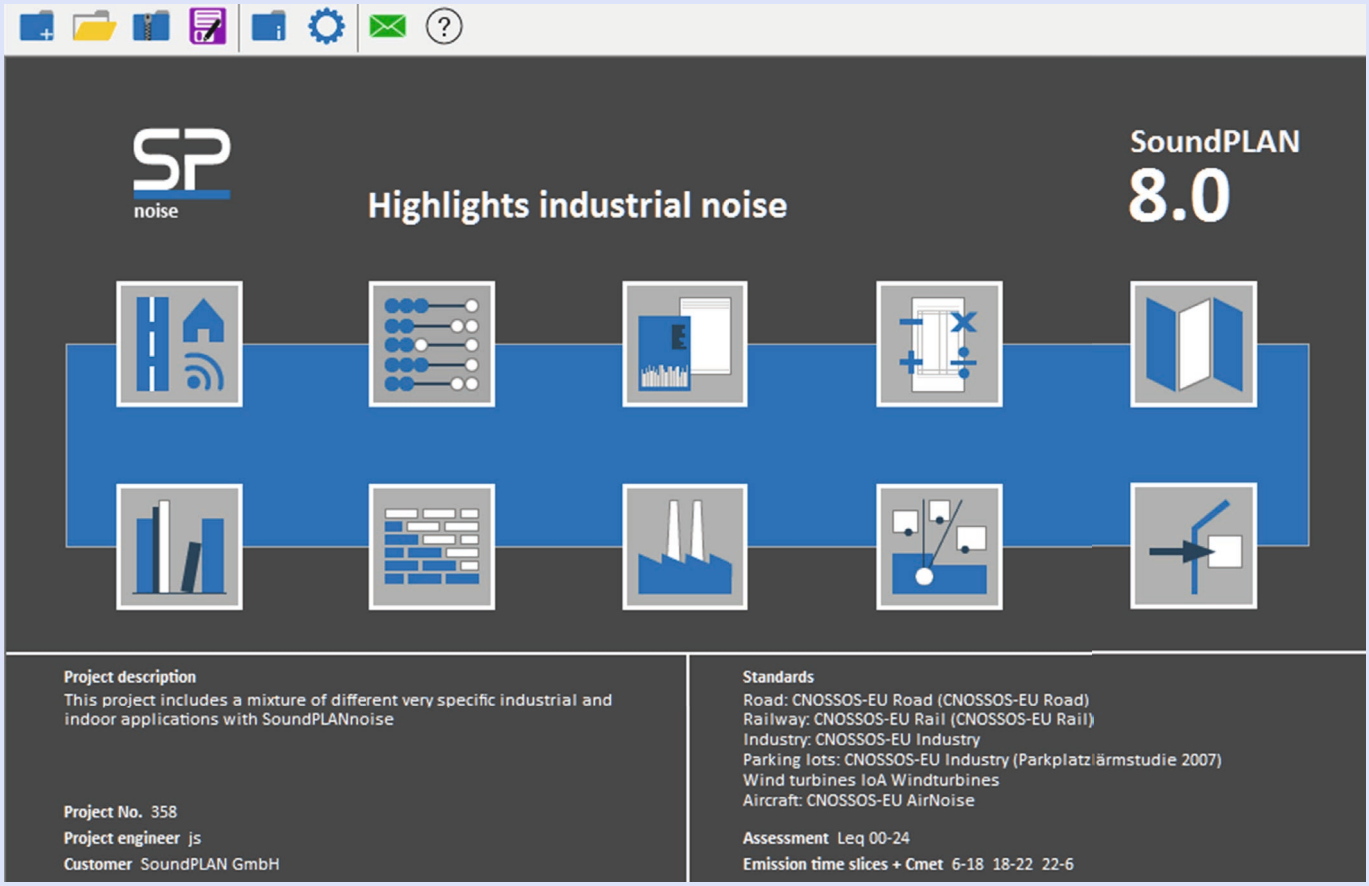
Data exchange

New and improved data exchange interfaces. These include KLM-Export and advanced interfaces to Open Street Map, Google Maps and Web Map Services

Indoor noise

The new industrial building / room editor, together with our newly developed Sound Particle Diffraction model, sets benchmarks for indoor noise calculations and room acoustics

Highlights SoundPLANnoise 8.0



With SoundPLANnoise 8.0, the SoundPLAN Manager got a new fresh look

We are delighted to announce the release of the brand new SoundPLANnoise 8.0. We have been world-leaders in noise mapping software for years, but there is always room for improvement and we have been working hard to bring you the very best new features and enhancements, including:

- The latest standards, including CNOSSOS-EU
- A new interface with Google Maps and OpenStreetMap
- Improved indoor noise mapping capabilities. With a completely new editor and a new calculation method (Sound Particle Diffraction)
- Connection to OpenGIS®Web Map Services
- Calculation of loudspeaker arrays of d&b audiotechnik GmbH taking interference into account
- Groups of sources in Result Tables, Spreadsheets and Graphics
- There's much more to explore too, try it yourself!

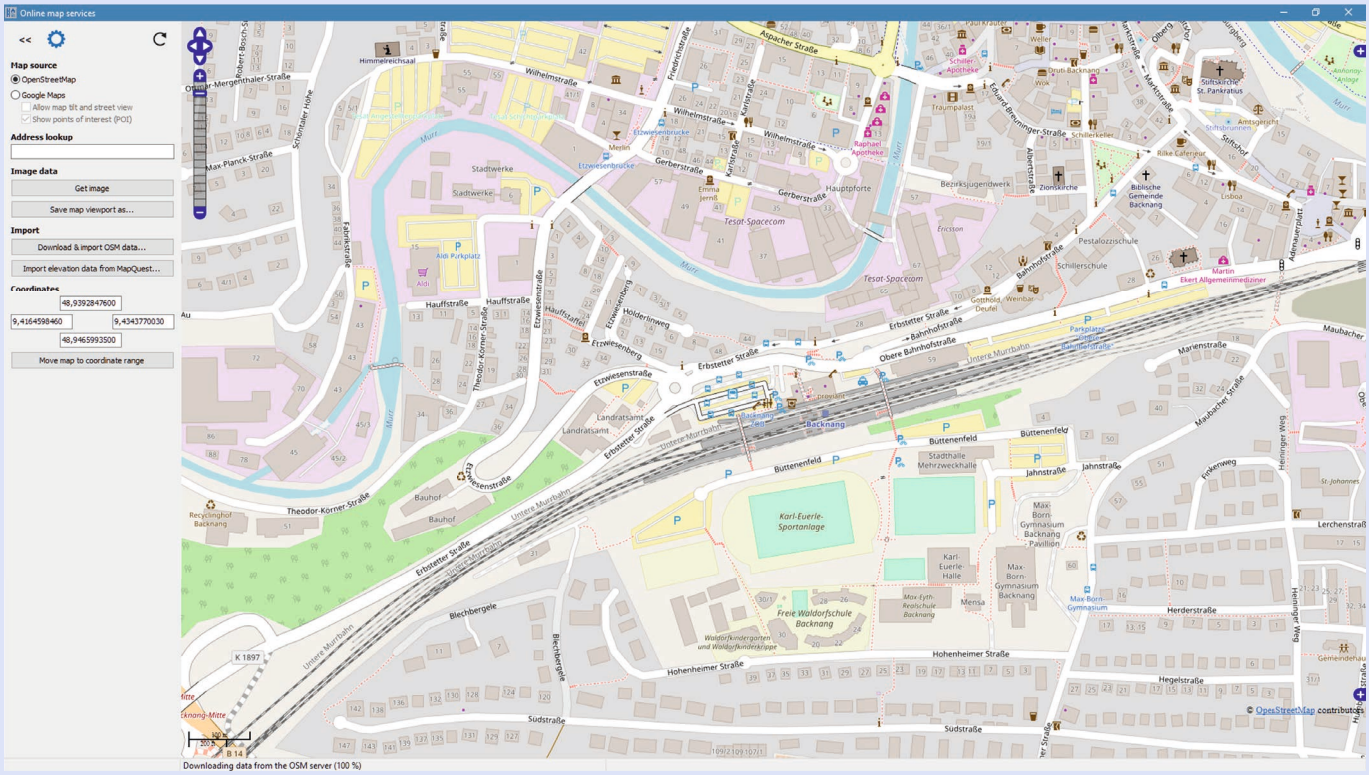
The latest standards, including CNOSSOS-EU

SoundPLAN believes there needs to be consistent and quality controlled standards to protect people from unnecessary harm from noise across the globe. Noise reduction is important for environmental purposes, but also to ensure companies are meeting health and safety rules and regulations. To this end, it is important to be up to date with the required standards when producing noise maps. SoundPLANnoise 8.0 includes new standards CNOSSOS-EU (roads, railways, industry, aircraft noise) and Danish regulations for wind turbines DSO 1284, for example.

SoundPLAN supports and complies with changes that have been proposed to ISO/TR 17534-3:2015, which relates to acoustics software for the calculation of sound outdoors. Additional recommendations have been proposed for the calculation method of ISO 9613 2, which we have also implemented; SoundPLAN is a member of the working group that has helped develop these new measures.

Interface for online map services

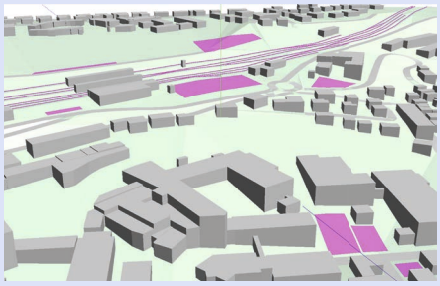
SoundPLANnoise 8.0 is now compatible with OpenStreetMap and Google Maps. Thanks to the new interface, after loading them, the online maps are presented in a window of their own so that you can work parallel either in the Geo-Database or with the map server. SoundPLAN not only supports the transfer of the maps as a one click solution from the online services into our software, but also gives you the possibility to directly import terrain information and real map data, like buildings, roads and other objects from OSM.



User interface to online map service

Google Maps satellite view

Google Maps tilted 3D view



Imported OSM data

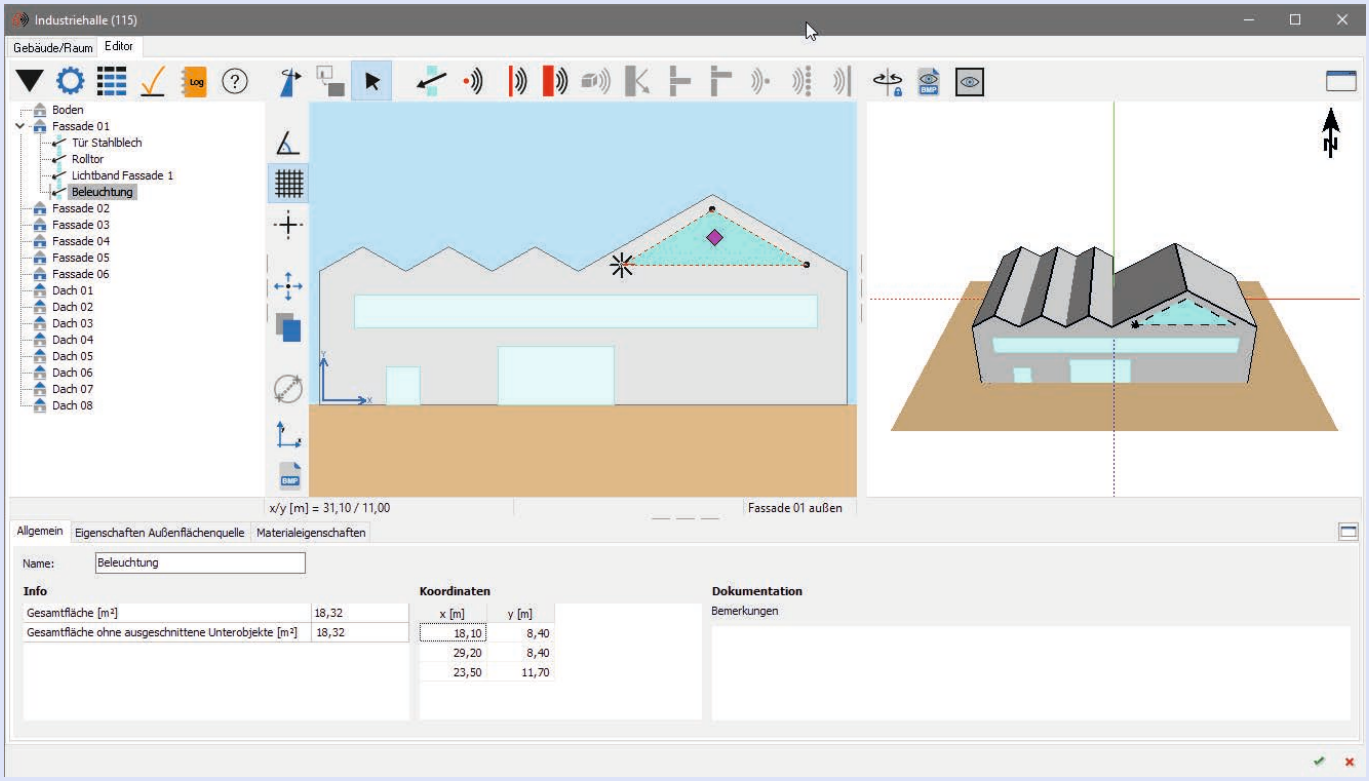
Google Maps can show a tilted view if the distance between the viewer and the ground is less than 50 meters. With the orange figure you can access Street View or switch to 360° panorama photos. Both options require that Google has data for these services available for your current location. With this service it is very easy to count the number of floors in a building and to assess what the building is used for (residential, non-residential). Also points of interest can be displayed in the Google 2D map.

EPSG Codes

EPSG codes (the European Petroleum Survey Group Geodesy made its name with their worldwide system of unique references used now in cartographical data) very often define the coordinate systems compatible with a WMS server or the coordinate system in which geometrical data are available for download. Wherever you can enter coordinate systems in SoundPLAN you can enter the EPSG code directly. This reduces mouse clicks an helps prevent incorrect input.

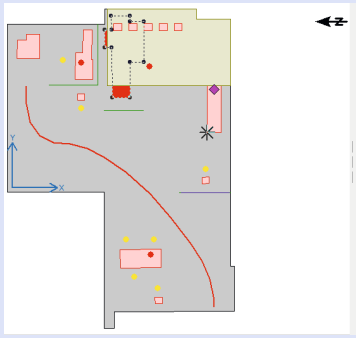
New features in the indoor module

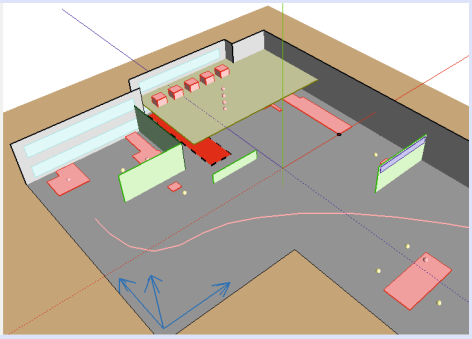
The indoor applications with the new intuitive building/room modeller and the new SPD (Sound Particle Diffraction) model is the revolutionary part of the new release.



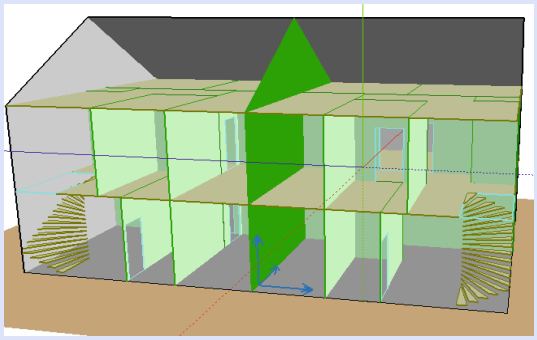
New modeler/editor for industrial buildings and rooms

For users with the industrial noise and the indoor factory module, SPD allows users to model noise in a completely new fashion. SoundPLANnoise 8.0 can model what no other software could, in one model you can calculate the noise maps of multiple rooms or entire buildings with the transmission of the airborne noise and the screening effects caused by obstacles or walls.



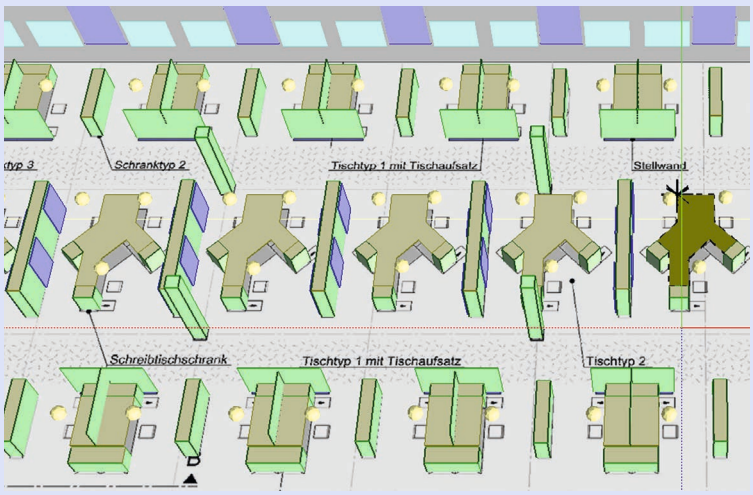


2D and 3D view inside a working space

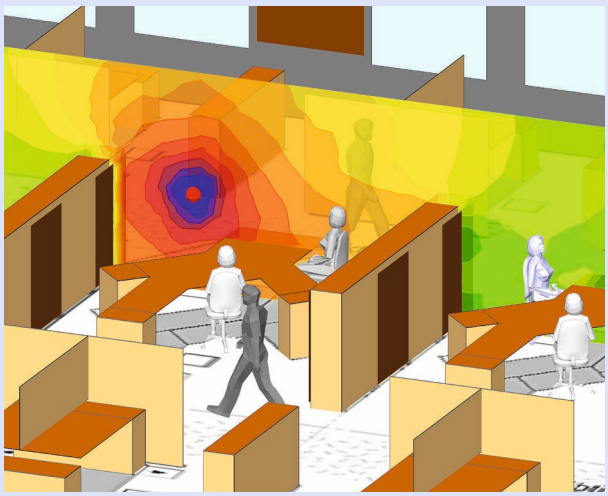


A building with stairs and openings modelled in SoundPLAN

SoundPLANnoise is able to model a wide variety of industrial situations such as factory floors with capsuled machines or enclosed operator stands. The software has also been designed to deal with offices – if you need to determine if working conditions are acceptable in offices adjacent to a noisy bottling plant, in a call centre with hundreds of people on the phone, or in a hotel lobby with a complicated 3D design, SoundPLAN provides you with the tools you need.

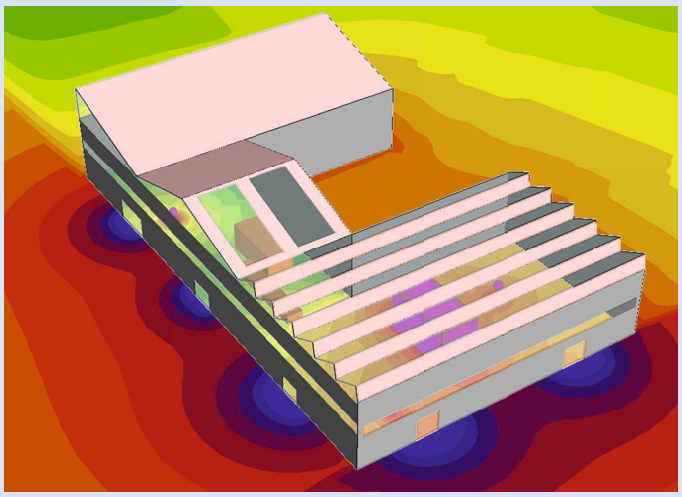


Open plan office defined in the SoundPLAN modeler

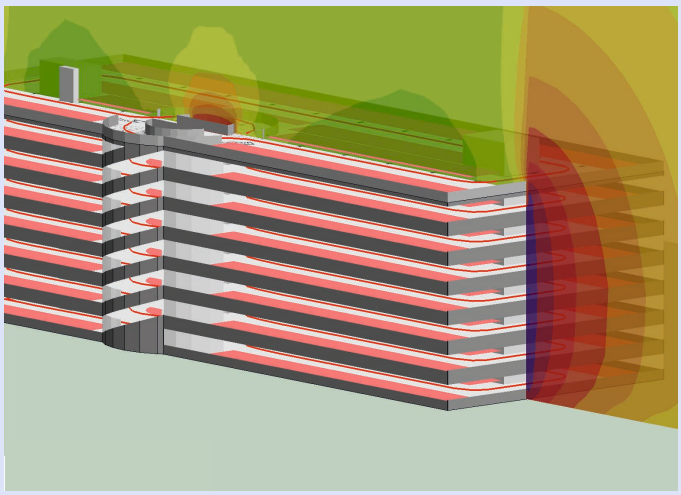


3D Cross section presentation of the noise distribution in an open planed office

As a result you not only get the mean noise level. With the new room acoustics module multiple room acoustical descriptiors such as the STI or EDT as well as measurement paths according to the VDI 2569 (E 02/2016) or ISO 3382-3 can be calculated.



An indoor to outdoor calculation taking into account the emission of windows and doors

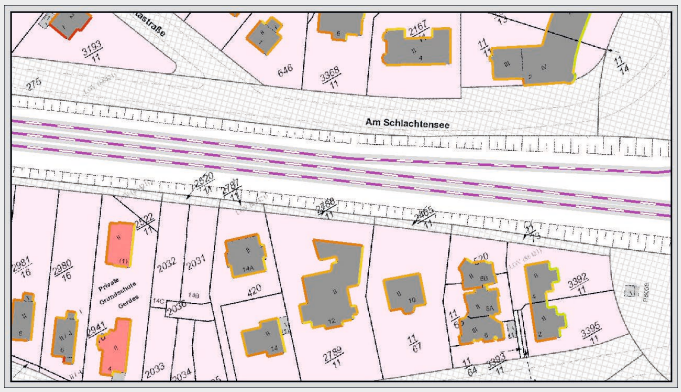


An indoor to outdoor calculation of a multi-story car park

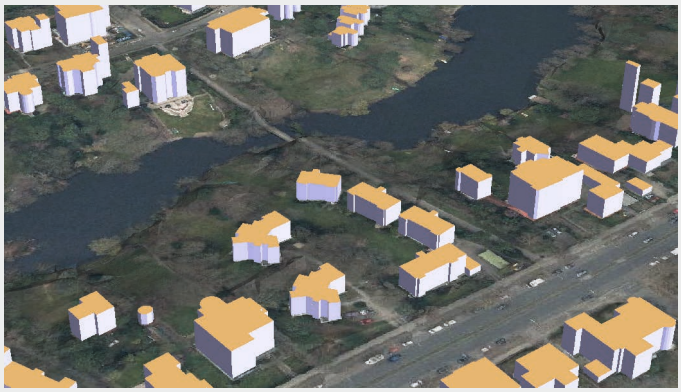
With this more complex model, SoundPLAN bridges the gap between the standard outdoor models and the models that evaluate the sound quality inside of buildings. Calculating from the inside of an industrial building into the surrounding has never been easier before and is also possibel for complex roof geometries.

Web Map Service (WMS)

With the new Web Map Service users can load maps to form the background of the graphical output in SoundPLAN. It is possible to load land registry data or aerial photos that are supplied by public authorities or made available by independent services. Unlike Google Earth, you do not get fixed sized bitmaps but the server will custom generate the bitmaps according to the selected window and resolution. SoundPLAN will automatically update this background data while the user changes the viewport (move or zoom).



Colored facades on a cadastral map imported from a WMS



3D buildings on a aerial photo imported from a WMS

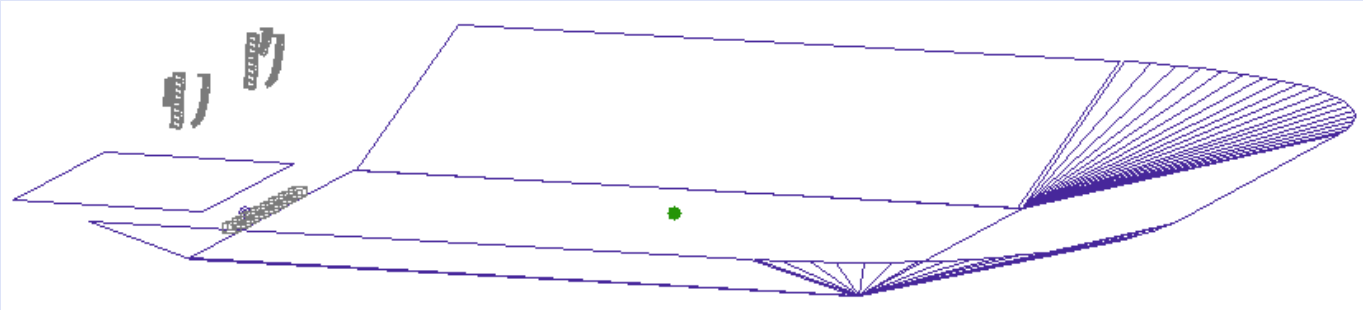
Keyhole Markup Language (KML)

Export your contour lines and SoundPLAN objects to KML (Keyhole Markup Language). This allows you to hand over your model and results for easy inspection to other parties. The KML file will open in any viewers (such as Google Earth) and shows its content without the need of a SoundPLAN license.

Noise contours and geometrical data exported from SoundPLAN to KLM and displayed in Google Earth

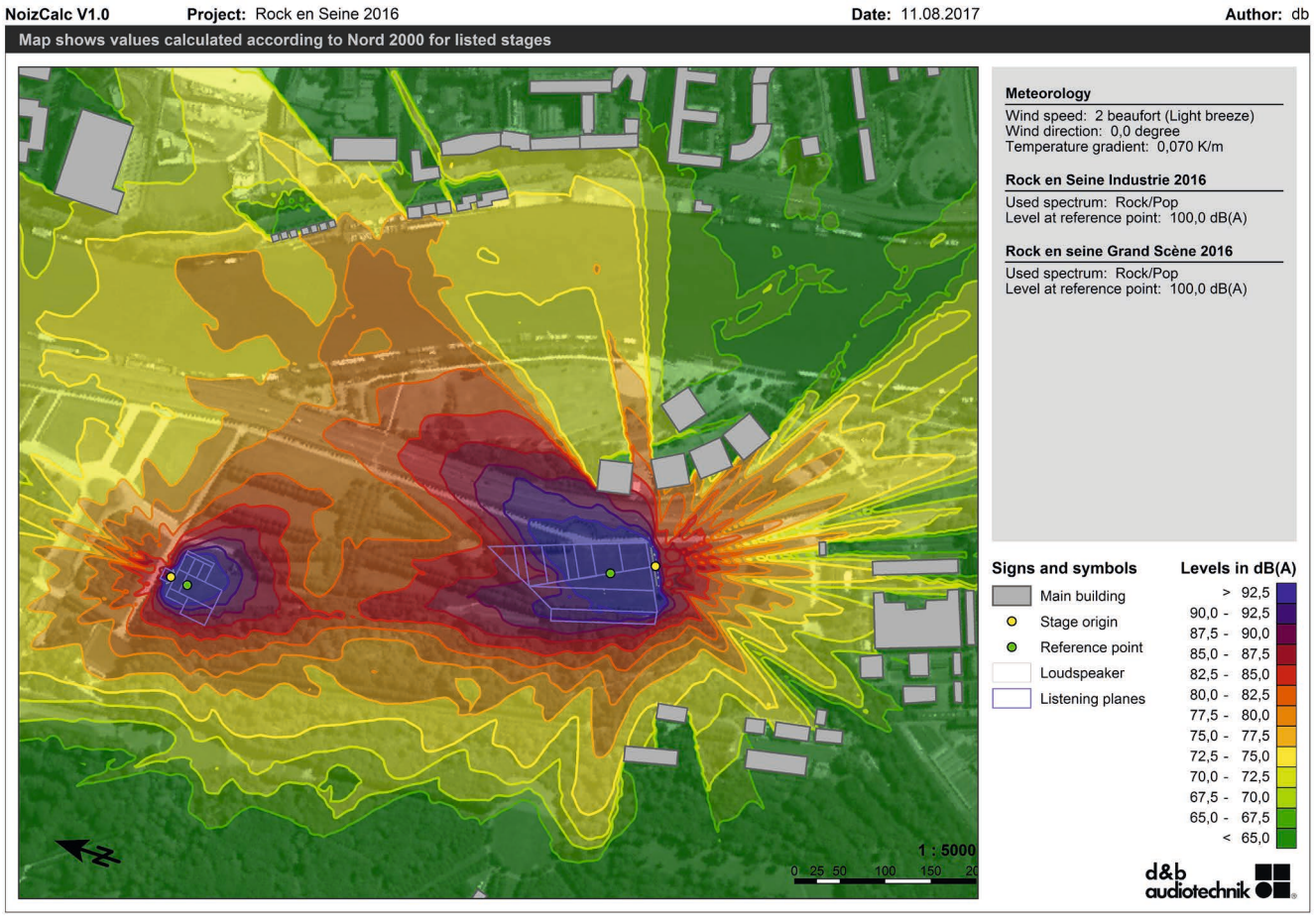
Loud speaker d&b

The far field noise prediction of d&b loudspeaker systems was developed in collaboration with d&b audiotechnik, a specialist in the field of electroacoustics as a manufacturer of high quality loudspeaker systems for speech and music reproduction and sound reinforcement in public places. SoundPLANnoise takes data from the Array Calc simulation software (this is the simulation tool for d&b line arrays, column and point source loudspeakers as well as subwoofers) and calculates levels in the audience listening zones.



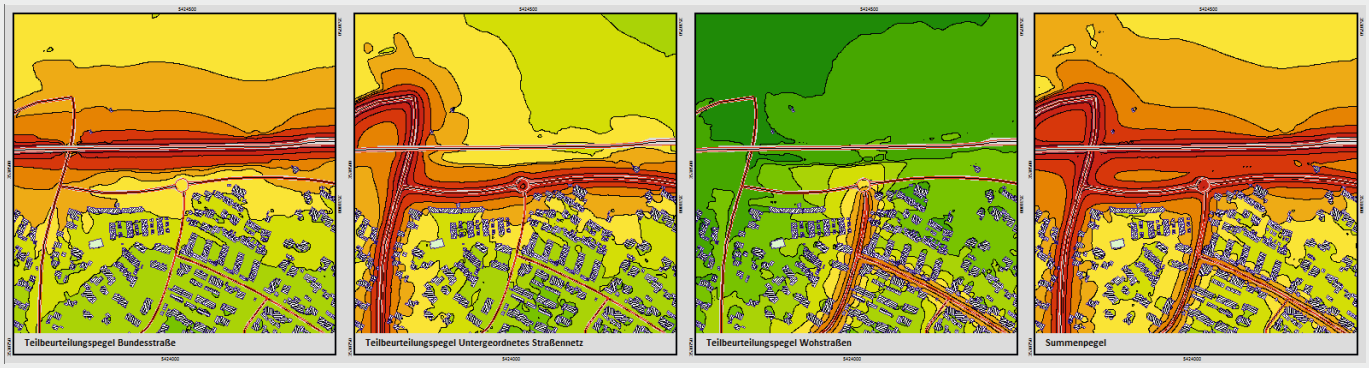
3D view of a venue with loudspeakers, subwoofers and audience terraces

This visual representation shows the actual system performance in the far field, enabling users to optimize for listeners while satisfying local noise restrictions and offsite regulations. To ensure the results are reliable, SoundPLAN includes all complex data concerning the addition and subtraction of sound waves, including phase information to describe the combination and interaction effects within a loudspeaker system consisting of multiple line arrays, subwoofer arrays and delay systems. The calculation is possible with ISO 9613-2 standard, which requires limited meteorological information and assumes a moderate worst case scenario. The other available standard is the more sophisticated propagation model, Nord2000, which enables a more precise handling of meteorological conditions allowing the user to model with prevailing wind information.



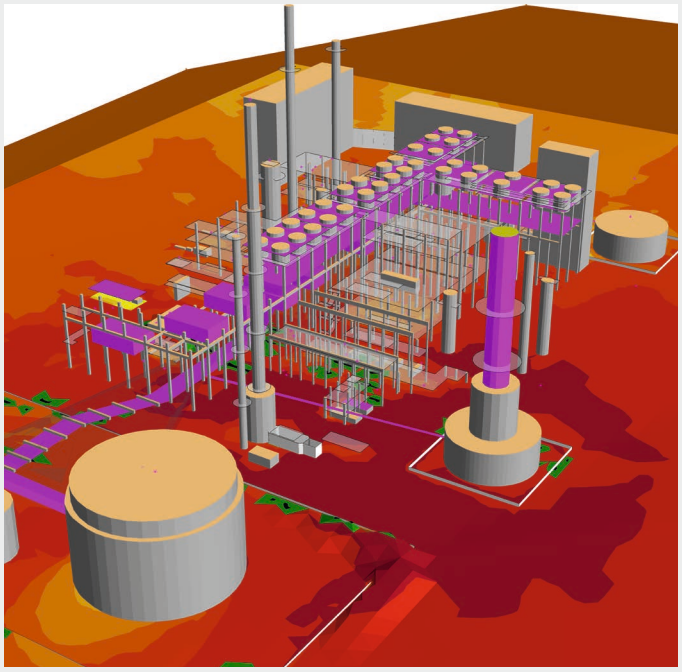
Result by source groups or frequency

The assignment and evaluation of groups has been extended in SoundPLANnoise 8.0. It is now possible to assign a group definition to roads and railways. Results are calculated for each group and the documentation (result tables), the spreadsheet and the graphics present the group results.

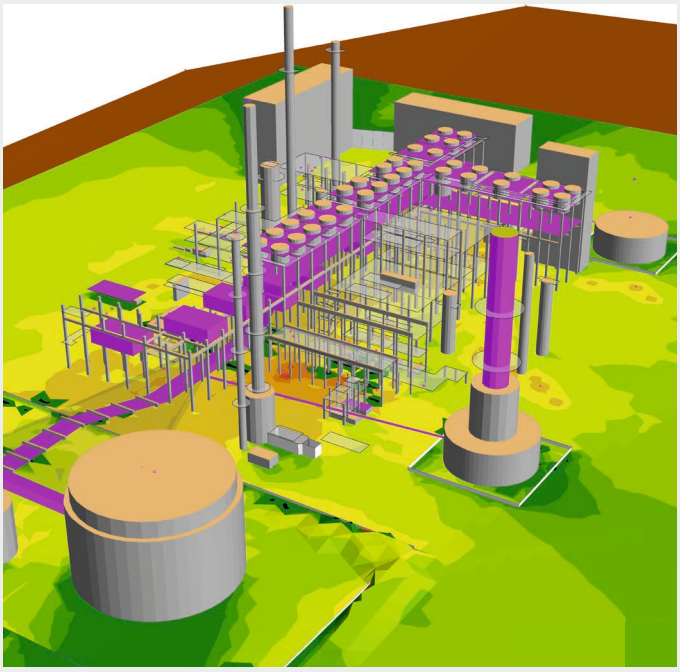


Noise contours and geometrical data exported from SoundPLAN to KLM and displayed in Google Earth

In addition, the horizontal and vertical grid noise maps now include the possibility to save spectral results. This enables users to show noise maps in the graphics as a total value or for each octave or third octave band individually.



Spectral noise level emitted by a complex industrial site for 63 Hz



Spectral noise level emitted by a complex industrial site for 1000 Hz

SOUNDPLAN GMBH
Certified according to ISO 9001:2008

Etzwiesenberg 15
71522 Backnang, Germany

phone +49.7191.9144-0
mail@soundplan.de
www.soundplan.eu

SOUNDPLAN INTERNATIONAL LLC

80 E Aspley Lane, Shelton
WA 98584, USA

phone +1.360.432.9840
marketing@soundplan.com
www.soundplan.com