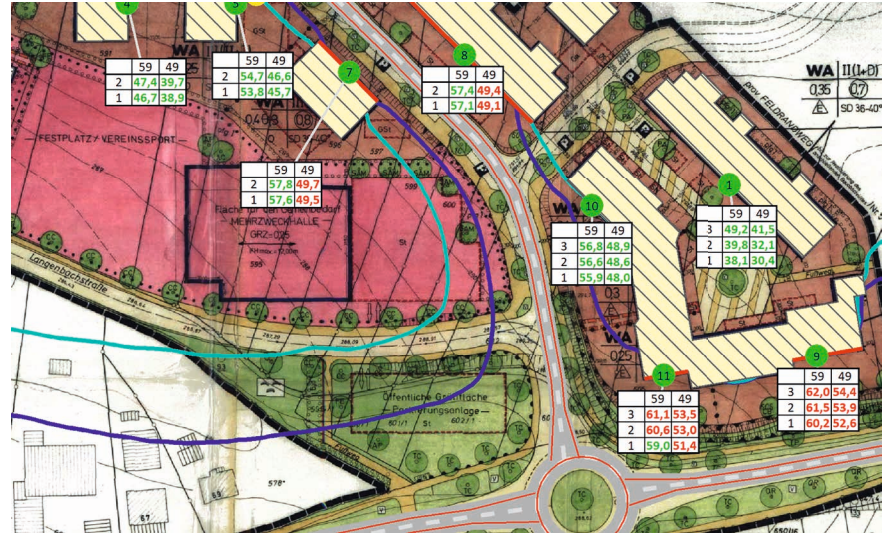


SoundPLAN®

essential



Highlights SoundPLANessential

No limit in the model size

Unlimited number of noise sources, receivers and obstacles

Road, railway and industry noise

Standard conform calculation with the original SoundPLAN calculation core

Intuitive graphical data entry

Clear display of the acoustically relevant object properties

Multithreading - use the full power of your PC

For single receiver points, limit contour lines and grid noise maps

Pleasant graphics and table presentation

e.g. documentation of the noise contribution levels or the frequency bands at the receiver

Passive noise protection

Optimization of the building facades transmission loss with the additional module BA outside according to EN ISO 12354-3

SPe

SoundPLANessential is a user-friendly software designed for noise mapping and basic sound propagation analysis. It enables users to create noise maps for multiple sources. The guided workflow is making it ideal for small to medium-sized projects. The software supports various standards and allows easy export of reports and maps for further use.

Noise protection wall (3028629)

Height [m] 2,00

☒ elements with constant wall height

☒ for calculation with noise protection

Reflection

☒ left - reflection loss [dB] 1,0

☒ right - reflection loss [dB] 1,0

Coordinates

X	Y	Gr.Elev.	Z	W.H.
530939,80	5421200,79	267,51	267,51	2,00
530947,23	5421206,60	268,11	268,11	2,00
530953,91	5421210,50	268,49	268,49	2,00
530960,45	5421213,70	268,71	268,71	2,00
530967,69	5421216,63	269,25	269,25	2,00
530974,66	5421218,99	269,74	269,74	2,00
530982,31	5421220,39	270,13	270,13	2,00
530990,39	5421221,36	270,45	270,45	2,00
530996,66	5421221,92	270,98	270,98	3,00
531004,31	5421221,64	271,46	271,46	3,00
531011,97	5421220,66	271,96	271,96	4,00
531017,82	5421219,13	272,27	272,27	4,00
531023,81	5421217,18	272,67	272,67	4,00
531030,07	5421213,98	273,02	273,02	4,00
531033,14	5421210,50	273,16	273,16	4,00
531036,48	5421211,89	273,29	273,29	3,00

X = 530995,87 Y = 5421211,74 Z = 277,38; Distance: 144,7

Select an object or begin a new object

3D model showing road traffic emissions, industrial noise sources, and a noise barrier with defined acoustic properties.

Modeling of the Geometry

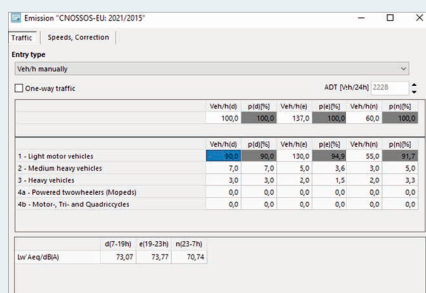
All geometry data are entered in the SoundPLANessential editor. Aside from the site map presentation, the data can also be checked for a consistent noise model in the 3D presentation. The easiest way to create the model data is to import a geo-referenced bitmap and digitize the data on top of it. The interactive map interface to Google Maps and OpenStreetMap makes it simple to get background maps. If you already have digital model data, import it via the DXF, ASCII, ESRI Shapefile or OpenStreet Map interfaces. Digital elevation data, such as laser scanning data can be intelligently filtered before importing them so that the elevation model needed for the noise propagation covers all relevant terrain edges but remains manageable.

The following objects are available (without any restriction in the number):

- Noise sources: Road (with traffic junctions), railway, parking lot, point, line and area source (assigned or not assigned to a building), stages (d&b audiotechnik GmbH)
- Ground absorption and attenuation areas
- Elevation lines and spot heights
- Buildings, noise protection walls and earth berms
- Receivers attached to a building or free-field receivers with any number of floors
- Noise map calculation area
- General lines / labeling texts

Definition of the Emission

SoundPLANessential can calculate the noise from roads, railways, industry sources and parking lots. The emission level of the roads is calculated from the traffic volume, the distribution to the vehicle types and other emission parameters such as road surface and speed. The emission calculation of railway sources needs the train types with their acoustical properties and the properties of the track, for example the track speed or the condition of the track. The emission of industrial



Emission calculation for a road with vehicle types according to CNOSSOS-EU.

Calculation

SoundPLANessential provides the following calculation types: Digital ground model from spot heights and elevation edges, single point calculations (to prove the noise situation at decisive receivers), limit contour lines and grid noise maps (display of color filled ISO-dB-areas). The original SoundPLAN calculation kernel is working in the background so all available threads of your PC can be used to guarantee a fast calculation. It is possible to calculate road, railway and industry noise together in one or in separate files. An additional project variant makes it possible to prove the decrease of noise due to noise protection walls and berms. On request the maximum level for the loudest emission point on a line or area source is automatically detected.

Road:

ASJ RTN-Model 2018 · BUB: 2021 · CNOSSOS-EU: 2021 · CoRTN: 1988 · HJ 2.4 Road: 2021 · NMPB 2008 · ÖAL 28: 2021 (RVS 4.02.11) · RLS-19 · RLS-90 · RVS 3.02/4.02: 2009 · sonROAD 18: 2024 · TNM 3.0

Railway:

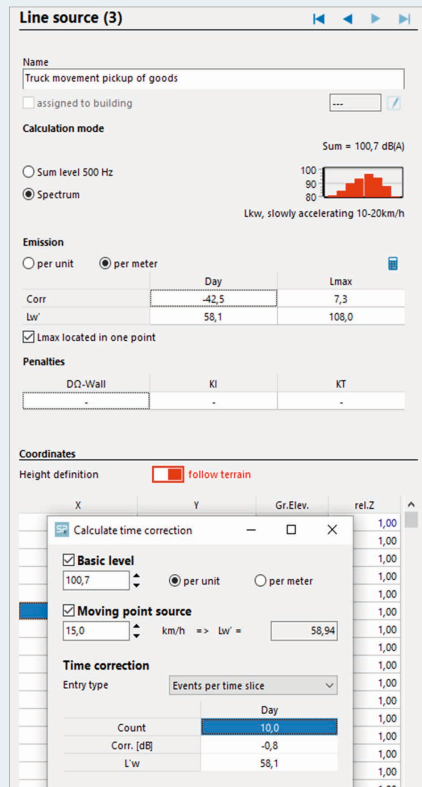
BUB: 2021 · CNOSSOS-EU: 2021 · CoRN: 1995 · FTA: 2018 / FRA - HSGT: 2005 · Israeli Rail: 2006 · Japan Narrow Gauge Railways: 2008 · NF S 31-133 Rail: 2007 · ÖAL 28: 2021 (RVE 4.02.11) · RMR 2002 · Schall 03: 2012 · SEMIBEL: 1990

Industry:

ASJ CN-Model 2007 · BS 5228-1: 2009 · BUB: 2021 · CNOSSOS-EU: 2021 · HJ 2.4: 2021 · ISO 9613-2: 1996/2024* · Nord2000 · ÖAL 28: 2021 · ÖNORM ISO 9613-2: 2008 *) without cylinders and informative annexes

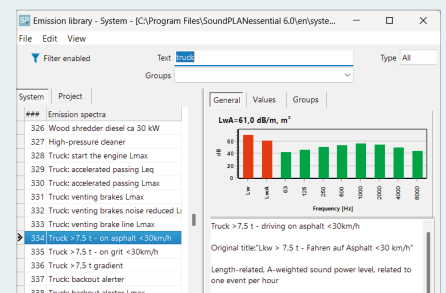
Parking lot:

Parkplatzlärmstudie (Parking Area Noise): 2007 · RLS-19 · RLS-90

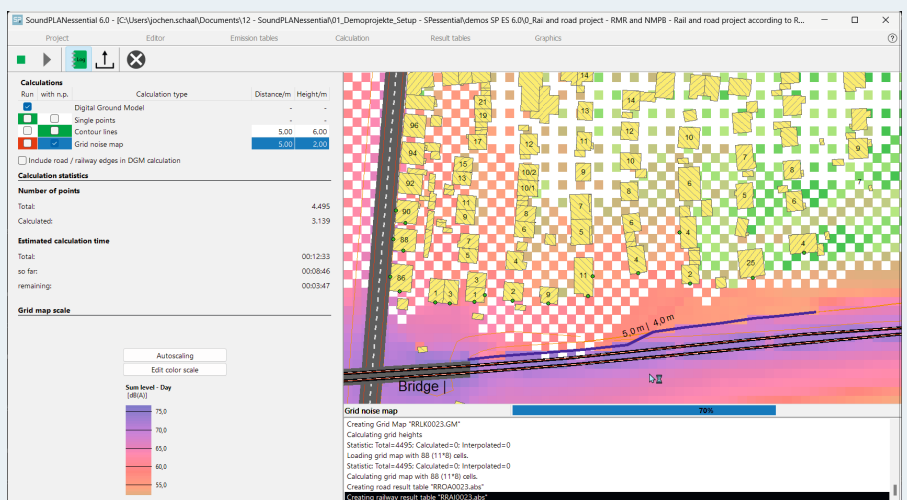


Definition of a moving point sound source with specification of the sound power level and speed.

sources is either entered as a mean sound power level or via a 1/3-octave/octave spectrum. The extensive emission library provides a large selection of different emission spectra. You can extend the library with your own spectral sources. The software automatically calculates the additions and deductions for the assessment times based on the operating times of the source. In addition to the sound pressure level, the maximum level can also be taken into account and assessed.



Selection of an element from the emission library with over 1200 entries.



Example: Grid noise map during the calculation with several threads.

Documentation in Tabular and Graphical form

The emission calculation of the different noise sources (roads, railways, industrial sources) and the results are clearly documented in tables. The result tables include the plain results with the assessment levels and the limit exceedance as well as the documentation of noise contribution levels and frequency spectra at the receivers. The results are in addition automatically refined for the graphical representation – either as small tables at the receivers, as limit contour lines or as color-filled noise contour areas. All output is pre-formatted and ready for use, allowing you to generate complete documentation without additional formatting effort. The following is a small selection of the extensive documentation options that SoundPLANessential offers you.

This table provides detailed documentation of road traffic noise emissions. It includes all relevant input parameters such as traffic volumes, broken down by vehicle category and speed for different time periods. Additional influencing factors like road surface type, the presence and distance of junctions, and possible gradients are also considered. The data is organized per road section and direction of traffic flow. In addition to the input parameters, the resulting emission levels are also documented, ensuring transparency and consistency for further noise prediction steps.

Project No. 071-9144: New development of a roundabout															
Noise emissions of road traffic															
Station km	DTV m(24h)	Vehicles type	M(T) M(N)	K(5h) K(1h)	p(T) p(N)	% %	v(T) v(N)	km/h km/h	Road surface	Junction Kind	Distance m	Multiple Reflection dB(A)	Gradient Min / Max %	Emission level Lw(T) dB(A)	Lw(N) dB(A)
Chapel road															
0+000	3430	Car	185,7	24,8	92,4	92,4	30	30	SMA 8	Roundabout	0 - 115	-	-3,7 - 4,6	72,7 - 74,9	63,9 - 66,2
		Truck1	7,6	1,0	3,8	3,8	30	30							
		Truck2	7,6	1,0	3,8	3,8	30	30							
		Motorcycles	-	-	-	-	30	30							
Ring Street															
Traffic direction: Both directions															
0+000	11264	Car	526,7	70,2	79,8	79,8	40	40	SMA 8	Roundabout	0 - 120	-	-1,2 - 6,4	80,7 - 83,3	71,9 - 74,5
		Truck1	66,7	8,9	10,1	10,1	40	40							
		Truck2	66,7	8,9	10,1	10,1	40	40							
		Motorcycles	-	-	-	-	40	40							
0+133	11264	Car	526,7	70,2	79,8	79,8	40	40	SMA 8	-	-	-	-2,2 - 2,7	80,7 - 80,8	71,9 - 72,1
		Truck1	66,7	8,9	10,1	10,1	40	40							
		Truck2	66,7	8,9	10,1	10,1	40	40							
		Motorcycles	-	-	-	-	40	40							
London road															
Traffic direction: Versus entry direction															
0+000	8317	Car	418,2	47,9	85,0	85,0	70	70	SMA 8	-	-	-	-3,3 - 3,7	83,7 - 84,1	74,2 - 74,6
		Truck1	36,9	4,2	7,5	7,5	70	70							
		Truck2	36,9	4,2	7,5	7,5	70	70							
		Motorcycles	-	-	-	-	70	70							
0+218	8317	Car	418,2	47,9	85,0	85,0	70	70	SMA 8	Roundabout	118 - 120	-	-2,4 - -2,2	83,7 - 83,8	74,3 - 74,4
		Truck1	36,9	4,2	7,5	7,5	70	70							
		Truck2	36,9	4,2	7,5	7,5	70	70							
		Motorcycles	-	-	-	-	70	70							
0+220	8317	Car	418,2	47,9	85,0	85,0	50	50	SMA 8	Roundabout	0 - 114	-	-7,2 - 2,3	80,3 - 82,8	70,8 - 73,3
		Truck1	36,9	4,2	7,5	7,5	50	50							
		Truck2	36,9	4,2	7,5	7,5	50	50							
		Motorcycles	-	-	-	-	50	50							



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page 1

Comprehensive tabular overview of all industrial noise sources, including day and night Leq values as well as Lmax levels where available. Each source is documented with full octave-band frequency spectra, reference units, and correction values such as facade reflection, impulsiveness, and tonality.

Approval procedure - Factory Metallix Noise emissions of industry sources																
Source name	Reference	Level dB(A)	1 Hz	2 Hz	3 Hz	5 Hz	10 Hz	20 Hz	30 Hz	50 Hz	100 Hz	200 Hz	400 Hz	800 Hz	1600 Hz	3150 Hz
Truck movement delivery	Leq/m	Day	59,4	-	59,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-	-
	Leq/m	Night	59,4	-	59,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-	-
Truck movement pickup of goods	Leq/m	Day	59,4	-	59,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-	-
	Leq/m	Night	59,4	-	59,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-	-
Fork lifting loading goods	Leq/m	Day	77,4	-	52,5	58,5	69,6	73,6	70,5	69,5	62,6	53,5	-	3,0	-	-
	Leq/m	Night	77,4	-	52,5	58,5	69,6	73,6	70,5	69,5	62,6	53,5	-	3,0	-	-
Door 1 finished goods	Leq/m²	Day	112,6	-	88,1	94,1	105,2	109,2	106,6	105,6	99,6	89,1	-	3,0	-	-
	Leq/m²	Night	112,6	-	88,1	94,1	105,2	109,2	106,6	105,6	99,6	89,1	-	3,0	-	-
Parking manoeuvre truck delivery	Leq/m	Day	82,4	-	63,6	66,6	70,6	75,6	78,6	75,6	69,6	60,6	-	-	-	-
	Leq/m	Night	82,4	-	63,6	66,6	70,6	75,6	78,6	75,6	69,6	60,6	-	-	-	-
Air conditioner	Leq/m	Day	80,4	57,5	70,9	75,0	81,3	83,7	84,5	82,6	83,0	73,3	-	-	-	-
	Leq/m	Night	80,4	57,5	70,9	75,0	81,3	83,7	84,5	82,6	83,0	73,3	-	-	-	-

Result documentation as a structured table of two single point calculations. Comparison of the calculated variant without and with noise barrier. Together with the limit values, limit exceedances and level reductions due to the noise protection.

SoundPLANessential 6.0 - [C:\Users\...]\Documents\12 - SoundPLANessential\01_Demoprojekte_Setup - SPessential\demosp ES 6.0\4_Rail and road project - CoRN and CoRTN - Rail and road project according to CRN and CoR...

ProjectEditorEmission tablesCalculationResult tablesGraphics

x, y

h

Result tables

Receiver list

Contributions

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Table header

<pn: Project title>

<tt: Table name>

No.	Receiver name	Building side	Floor	Limit	Day	Night	Level w/o NP	Day	Night	Level w NP	Day	Night	Difference	Day	Night	Conflict	Day	Night
				dB(A)			dB(A)			dB(A)			dB			dB		
1	Black road 4	West	EG	63	57	56,1	52,1	48,7	44,7	-7,4	-7,4	-	-	-	-	-	-	-
2		South	EG	57	57	56,6	52,6	50,2	46,2	-6,5	-6,5	-	-	-	-	-	-	-
3	Black road 11	East	EG	63	57	62,0	58,0	52,8	48,8	-9,2	-9,2	-	-	-	-	-	-	-
4		South	EG	63	57	62,6	58,6	54,5	50,5	-8,0	-8,0	-	-	-	-	-	-	-
5	Green road 1	South	EG	63	57	59,3	55,3	50,4	46,4	-8,9	-8,9	-	-	-	-	-	-	-
6		East	EG	63	57	60,0	56,1	51,8	47,9	-8,2	-8,2	-	-	-	-	-	-	-
7	Green road 2	South	EG	63	57	60,5	56,5	53,7	49,7	-6,8	-6,8	-	-	-	-	-	-	-
8		South	EG	63	57	64,2	60,3	56,0	52,0	-8,2	-8,2	-	-	-	-	-	-	-
9		South	EG	63	57	64,7	60,8	57,5	53,5	-7,2	-7,2	-	-	-	-	-	-	-
10	Main road 1	South	EG	63	57	65,1	61,1	59,7	55,7	-5,4	-5,4	-	-	-	-	-	-	-
11	Main road 3	South	EG	63	57	62,7	58,7	61,0	57,1	-1,7	-1,7	-	-	-	-	-	0,1	2,3
12	Main road 4	South	EG	63	57	64,3	60,4	61,4	57,4	-2,9	-2,9	-	-	-	-	-	-	0,4
13	Main road 9	South	EG	63	57	59,9	55,9	49,7	45,7	-10,2	-10,2	-	-	-	-	-	-	-
14	Pink road 25	South	EG	63	57	60,6	56,7	50,7	46,7	-10,0	-10,0	-	-	-	-	-	-	-
15	Red road 86	South	EG	63	57	62,5	58,5	53,5	49,5	-8,9	-8,9	-	-	-	-	-	-	-
		South	EG	63	57	63,4	59,5	55,7	51,7	-7,7	-7,7	-	-	-	-	-	-	-
		South	EG	63	57	63,4	59,5	55,7	51,7	-7,7	-7,7	-	-	-	-	-	-	-
		South	EG	63	57	62,1	58,1	58,3	54,3	-3,9	-3,9	-	-	-	-	-	-	-
		South	EG	63	57	62,7	58,7	58,7	54,7	-4,0	-4,0	-	-	-	-	-	-	-
		South	EG	63	57	62,5	58,5	53,5	49,5	-8,9	-8,9	-	-	-	-	-	-	-
		South	EG	63	57	63,4	59,5	55,7	51,7	-7,7	-7,7	-	-	-	-	-	-	-
		South	EG	63	57	64,1	60,1	63,3	59,3	-0,7	-0,7	-	-	-	-	-	0,3	2,3
		South	EG	63	57	64,5	60,5	63,6	59,6	-0,9	-0,9	-	-	-	-	-	0,6	2,6
		South	EG	63	57	64,8	60,9	63,9	59,9	-1,0	-1,0	-	-	-	-	-	0,9	2,9
		South	EG	63	57	63,8	59,8	62,8	58,8	-1,0	-1,0	-	-	-	-	-	-	1,8
		South	EG	63	57	64,4	60,4	63,1	59,1	-1,3	-1,3	-	-	-	-	-	0,1	2,1
		South	EG	63	57	64,8	60,8	63,3	59,4	-1,4	-1,4	-	-	-	-	-	0,3	2,4
		South	EG	63	57	53,5	49,5	48,9	44,9	-4,6	-4,6	-	-	-	-	-	-	-
		South	EG	63	57	56,5	52,5	51,2	47,2	-5,3	-5,3	-	-	-	-	-	-	-
		South	EG	63	57	64,3	60,3	56,4	52,4	-7,9	-7,9	-	-	-	-	-	-	-
		South	EG	63	57	65,0	61,0	57,4	53,4	-7,6	-7,6	-	-	-	-	-	-	-
		South	EG	63	57	59,9	55,9	52,1	48,2	-7,8	-7,8	-	-	-	-	-	-	-
		South	EG	63	57	62,3	58,3	54,7	50,7	-7,6	-7,6	-	-	-	-	-	-	-
		South	EG	63	57	61,4	58,5	61,0	58,2	-0,4	-0,4	-	-	-	-	-	-	1,2
		South	EG	63	57	63,7	59,5	60,1	56,1	-0,4	-0,4	-	-	-	-	-	0,3	3,1

The mean propagation table shows detailed sound propagation results for all relevant source-receiver combinations. It includes emission levels and individual attenuation components such as distance, ground, atmospheric absorption, reflections, and screening. This enables full transparency of how the final noise level at each receiver is determined.

Source name	Source type	Time slice	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉	L ₁₀	L ₁₁	L ₁₂	L ₁₃	L ₁₄	L ₁₅	L ₁₆	L ₁₇	L ₁₈	L ₁₉	L ₂₀	L ₂₁	L ₂₂	L ₂₃	L ₂₄	L ₂₅	L ₂₆	L ₂₇	L ₂₈	L ₂₉	L ₃₀	L ₃₁	L ₃₂	L ₃₃	L ₃₄	L ₃₅	L ₃₆	L ₃₇	L ₃₈	L ₃₉	L ₄₀	L ₄₁	L ₄₂	L ₄₃	L ₄₄	L ₄₅	L ₄₆	L ₄₇	L ₄₈	L ₄₉	L ₅₀	L ₅₁	L ₅₂	L ₅₃	L ₅₄	L ₅₅	L ₅₆	L ₅₇	L ₅₈	L ₅₉	L ₆₀	L ₆₁	L ₆₂	L ₆₃	L ₆₄	L ₆₅	L ₆₆	L ₆₇	L ₆₈	L ₆₉	L ₇₀	L ₇₁	L ₇₂	L ₇₃	L ₇₄	L ₇₅	L ₇₆	L ₇₇	L ₇₈	L ₇₉	L ₈₀	L ₈₁	L ₈₂	L ₈₃	L ₈₄	L ₈₅	L ₈₆	L ₈₇	L ₈₈	L ₈₉	L ₉₀	L ₉₁	L ₉₂	L ₉₃	L ₉₄	L ₉₅	L ₉₆	L ₉₇	L ₉₈	L ₉₉	L ₁₀₀	L ₁₀₁	L ₁₀₂	L ₁₀₃	L ₁₀₄	L ₁₀₅	L ₁₀₆	L ₁₀₇	L ₁₀₈	L ₁₀₉	L ₁₁₀	L ₁₁₁	L ₁₁₂	L ₁₁₃	L ₁₁₄	L ₁₁₅	L ₁₁₆	L ₁₁₇	L ₁₁₈	L ₁₁₉	L ₁₂₀	L ₁₂₁	L ₁₂₂	L ₁₂₃	L ₁₂₄	L ₁₂₅	L ₁₂₆	L ₁₂₇	L ₁₂₈	L ₁₂₉	L ₁₃₀	L ₁₃₁	L ₁₃₂	L ₁₃₃	L ₁₃₄	L ₁₃₅	L ₁₃₆	L ₁₃₇	L ₁₃₈	L ₁₃₉	L ₁₄₀	L ₁₄₁	L ₁₄₂	L ₁₄₃	L ₁₄₄	L ₁₄₅	L ₁₄₆	L ₁₄₇	L ₁₄₈	L ₁₄₉	L ₁₅₀	L ₁₅₁	L ₁₅₂	L ₁₅₃	L ₁₅₄	L ₁₅₅	L ₁₅₆	L ₁₅₇	L ₁₅₈	L ₁₅₉	L ₁₆₀	L ₁₆₁	L ₁₆₂	L ₁₆₃	L ₁₆₄	L ₁₆₅	L ₁₆₆	L ₁₆₇	L ₁₆₈	L ₁₆₉	L ₁₇₀	L ₁₇₁	L ₁₇₂	L ₁₇₃	L ₁₇₄	L ₁₇₅	L ₁₇₆	L ₁₇₇	L ₁₇₈	L ₁₇₉	L ₁₈₀	L ₁₈₁	L ₁₈₂	L ₁₈₃	L ₁₈₄	L ₁₈₅	L ₁₈₆	L ₁₈₇	L ₁₈₈	L ₁₈₉	L ₁₉₀	L ₁₉₁	L ₁₉₂	L ₁₉₃	L ₁₉₄	L ₁₉₅	L ₁₉₆	L ₁₉₇	L ₁₉₈	L ₁₉₉	L ₂₀₀	L ₂₀₁	L ₂₀₂	L ₂₀₃	L ₂₀₄	L ₂₀₅	L ₂₀₆	L ₂₀₇	L ₂₀₈	L ₂₀₉	L ₂₁₀	L ₂₁₁	L ₂₁₂	L ₂₁₃	L ₂₁₄	L ₂₁₅	L ₂₁₆	L ₂₁₇	L ₂₁₈	L ₂₁₉	L ₂₂₀	L ₂₂₁	L ₂₂₂	L ₂₂₃	L ₂₂₄	L ₂₂₅	L ₂₂₆	L ₂₂₇	L ₂₂₈	L ₂₂₉	L ₂₃₀	L ₂₃₁	L ₂₃₂	L ₂₃₃	L ₂₃₄	L ₂₃₅	L ₂₃₆	L ₂₃₇	L ₂₃₈	L ₂₃₉	L ₂₄₀	L ₂₄₁	L ₂₄₂	L ₂₄₃	L ₂₄₄	L ₂₄₅	L ₂₄₆	L ₂₄₇	L ₂₄₈	L ₂₄₉	L ₂₅₀	L ₂₅₁	L ₂₅₂	L ₂₅₃	L ₂₅₄	L ₂₅₅	L ₂₅₆	L ₂₅₇	L ₂₅₈	L ₂₅₉	L ₂₆₀	L ₂₆₁	L ₂₆₂	L ₂₆₃	L ₂₆₄	L ₂₆₅	L ₂₆₆	L ₂₆₇	L ₂₆₈	L ₂₆₉	L ₂₇₀	L ₂₇₁	L ₂₇₂	L ₂₇₃	L ₂₇₄	L ₂₇₅	L ₂₇₆	L ₂₇₇	L ₂₇₈	L ₂₇₉	L ₂₈₀	L ₂₈₁	L ₂₈₂	L ₂₈₃	L ₂₈₄	L ₂₈₅	L ₂₈₆	L ₂₈₇	L ₂₈₈	L ₂₈₉	L ₂₉₀	L ₂₉₁	L ₂₉₂	L ₂₉₃	L ₂₉₄	L ₂₉₅	L ₂₉₆	L ₂₉₇	L ₂₉₈	L ₂₉₉	L ₃₀₀	L ₃₀₁	L ₃₀₂	L ₃₀₃	L ₃₀₄	L ₃₀₅	L ₃₀₆	L ₃₀₇	L ₃₀₈	L ₃₀₉	L ₃₁₀	L ₃₁₁	L ₃₁₂	L ₃₁₃	L ₃₁₄	L ₃₁₅	L ₃₁₆	L ₃₁₇	L ₃₁₈	L ₃₁₉	L ₃₂₀	L ₃₂₁	L ₃₂₂	L ₃₂₃	L ₃₂₄	L ₃₂₅	L ₃₂₆	L ₃₂₇	L ₃₂₈	L ₃₂₉	L ₃₃₀	L ₃₃₁	L ₃₃₂	L ₃₃₃	L ₃₃₄	L ₃₃₅	L ₃₃₆	L ₃₃₇	L ₃₃₈	L ₃₃₉	L ₃₄₀	L ₃₄₁	L ₃₄₂	L ₃₄₃	L ₃₄₄	L ₃₄₅	L ₃₄₆	L ₃₄₇	L ₃₄₈	L ₃₄₉	L ₃₅₀	L ₃₅₁	L ₃₅₂	L ₃₅₃	L ₃₅₄	L ₃₅₅	L ₃₅₆	L ₃₅₇	L ₃₅₈	L ₃₅₉	L ₃₆₀	L ₃₆₁	L ₃₆₂	L ₃₆₃	L ₃₆₄	L ₃₆₅	L ₃₆₆	L ₃₆₇	L ₃₆₈	L ₃₆₉	L ₃₇₀	L ₃₇₁	L ₃₇₂	L ₃₇₃	L ₃₇₄	L ₃₇₅	L ₃₇₆	L ₃₇₇	L ₃₇₈	L ₃₇₉	L ₃₈₀	L ₃₈₁	L ₃₈₂	L ₃₈₃	L ₃₈₄	L ₃₈₅	L ₃₈₆	L ₃₈₇	L ₃₈₈	L ₃₈₉	L ₃₉₀	L ₃₉₁	L ₃₉₂	L ₃₉₃	L ₃₉₄	L ₃₉₅	L ₃₉₆	L ₃₉₇	L ₃₉₈	L ₃₉₉	L ₄₀₀	L ₄₀₁	L ₄₀₂	L ₄₀₃	L ₄₀₄	L ₄₀₅	L ₄₀₆	L ₄₀₇	L ₄₀₈	L ₄₀₉	L ₄₁₀	L ₄₁₁	L ₄₁₂	L ₄₁₃	L ₄₁₄	L ₄₁₅	L ₄₁₆	L ₄₁₇	L ₄₁₈	L ₄₁₉	L ₄₂₀	L ₄₂₁	L ₄₂₂	L ₄₂₃	L ₄₂₄	L ₄₂₅	L ₄₂₆	L ₄₂₇	L ₄₂₈	L ₄₂₉	L ₄₃₀	L ₄₃₁	L ₄₃₂	L ₄₃₃	L ₄₃₄	L ₄₃₅	L ₄₃₆	L ₄₃₇	L ₄₃₈	L ₄₃₉	L ₄₄₀	L ₄₄₁	L ₄₄₂	L ₄₄₃	L ₄₄₄	L ₄₄₅	L ₄₄₆	L ₄₄₇	L ₄₄₈	L ₄₄₉	L ₄₅₀	L ₄₅₁	L ₄₅₂	L ₄₅₃	L ₄₅₄	L ₄₅₅	L ₄₅₆	L ₄₅₇	L ₄₅₈	L ₄₅₉	L ₄₆₀	L ₄₆₁	L ₄₆₂	L ₄₆₃	L ₄₆₄	L ₄₆₅	L ₄₆₆	L ₄₆₇	L ₄₆₈	L ₄₆₉	L ₄₇₀	L ₄₇₁	L ₄₇₂	L ₄₇₃	L ₄₇₄	L ₄₇₅	L ₄₇₆	L ₄₇₇	L ₄₇₈	L ₄₇₉	L ₄₈₀	L ₄₈₁	L ₄₈₂	L ₄₈₃	L ₄₈₄	L ₄₈₅	L ₄₈₆	L ₄₈₇	L ₄₈₈	L ₄₈₉	L ₄₉₀	L ₄₉₁	L ₄₉₂	L ₄₉₃	L ₄₉₄	L ₄₉₅	L ₄₉₆	L ₄₉₇	L ₄₉₈	L ₄₉₉	L ₅₀₀	L ₅₀₁	L ₅₀₂	L ₅₀₃	L ₅₀₄	L ₅₀₅	L ₅₀₆	L ₅₀₇	L ₅₀₈	L ₅₀₉	L ₅₁₀	L ₅₁₁	L ₅₁₂	L ₅₁₃	L ₅₁₄	L ₅₁₅	L ₅₁₆	L ₅₁₇	L ₅₁₈	L ₅₁₉	L ₅₂₀	L ₅₂₁	L ₅₂₂	L ₅₂₃	L ₅₂₄	L ₅₂₅	L ₅₂₆	L ₅₂₇	L ₅₂₈	L ₅₂₉	L ₅₃₀	L ₅₃₁	L ₅₃₂	L ₅₃₃	L ₅₃₄	L ₅₃₅	L ₅₃₆	L ₅₃₇	L ₅₃₈	L ₅₃₉	L ₅₄₀	L ₅₄₁	L ₅₄₂	L ₅₄₃	L ₅₄₄	L ₅₄₅	L ₅₄₆	L ₅₄₇	L ₅₄₈	L ₅₄₉	L ₅₅₀	L ₅₅₁	L ₅₅₂	L ₅₅₃	L ₅₅₄	L ₅₅₅	L ₅₅₆	L ₅₅₇	L ₅₅₈	L ₅₅₉	L ₅₆₀	L ₅₆₁	L ₅₆₂	L ₅₆₃	L ₅₆₄	L ₅₆₅	L ₅₆₆	L ₅₆₇	L ₅₆₈	L ₅₆₉	L ₅₇₀	L ₅₇₁	L ₅₇₂	L ₅₇₃	L ₅₇₄	L ₅₇₅	L ₅₇₆	L ₅₇₇	L ₅₇₈	L ₅₇₉	L ₅₈₀	L ₅₈₁	L ₅₈₂	L ₅₈₃	L ₅₈₄	L ₅₈₅	L ₅₈₆	L ₅₈₇	L ₅₈₈	L ₅₈₉	L ₅₉₀	L ₅₉₁	L ₅₉₂	L ₅₉₃	L ₅₉₄	L ₅₉₅	L ₅₉₆	L ₅₉₇	L ₅₉₈	L ₅₉₉	L ₆₀₀	L ₆₀₁	L ₆₀₂	L ₆₀₃	L ₆₀₄	L ₆₀₅	L ₆₀₆	L ₆₀₇	L ₆₀₈	L ₆₀₉	L ₆₁₀	L ₆₁₁	L ₆₁₂	L ₆₁₃	L ₆₁₄	L ₆₁₅	L ₆₁₆	L ₆₁₇	L ₆₁₈	L ₆₁₉	L ₆₂₀	L ₆₂₁	L ₆₂₂	L ₆₂₃	L ₆₂₄	L ₆₂₅	L ₆₂₆	L ₆₂₇	L ₆₂₈	L ₆₂₉	L ₆₃₀	L ₆₃₁	L ₆₃₂	L ₆₃₃	L ₆₃₄	L ₆₃₅	L ₆₃₆	L ₆₃₇	L ₆₃₈	L ₆₃₉	L ₆₄₀	L ₆₄₁	L ₆₄₂	L ₆₄₃	L ₆₄₄	L ₆₄₅	L ₆₄₆	L ₆₄₇	L ₆₄₈	L ₆₄₉	L ₆₅₀	L ₆₅₁	L ₆₅₂	L ₆₅₃	L ₆₅₄	L ₆₅₅	L ₆₅₆	L ₆₅₇	L ₆₅₈	L ₆₅₉	L ₆₆₀	L ₆₆₁	L ₆₆₂	L ₆₆₃	L ₆₆₄	L ₆₆₅	L ₆₆₆	L ₆₆₇	L ₆₆₈	L ₆₆₉	L ₆₇₀	L ₆₇₁	L ₆₇₂	L ₆₇₃	L ₆₇₄	L ₆₇₅	L ₆₇₆	L ₆₇₇	L ₆₇₈	L ₆₇₉	L ₆₈₀	L ₆₈₁	L ₆₈₂	L ₆₈₃	L ₆₈₄	L ₆₈₅	L ₆₈₆	L ₆₈₇	L ₆₈₈	L ₆₈₉	L ₆₉₀	L ₆₉₁	L ₆₉₂	L ₆₉₃	L ₆₉₄	L ₆₉₅	L ₆₉₆	L ₆₉₇	L ₆₉₈	L ₆₉₉	L ₇₀₀	L ₇₀₁	L ₇₀₂	L ₇₀₃	L ₇₀₄	L ₇₀₅	L ₇₀₆	L ₇₀₇	L ₇₀₈	L ₇₀₉	L ₇₁₀	L ₇₁₁	L ₇₁₂	L ₇₁₃	L ₇₁₄	L ₇₁₅	L ₇₁₆	L ₇₁₇	L ₇₁₈	L ₇₁₉	L ₇₂₀	L ₇₂₁	L ₇₂₂	L ₇₂₃	L ₇₂₄	L ₇₂₅	L ₇₂₆	L ₇₂₇	L ₇₂₈	L ₇₂₉	L ₇₃₀	L ₇₃₁	L ₇₃₂	L ₇₃₃	L ₇₃₄	L ₇₃₅	L ₇₃₆	L ₇₃₇	L ₇₃₈	L ₇₃₉	L ₇₄₀	L ₇₄₁	L ₇₄₂	L ₇₄₃	L ₇₄₄	L ₇₄₅	L ₇₄₆	L ₇₄₇	L ₇₄₈	L ₇₄₉	L ₇₅₀	L ₇₅₁	L ₇₅₂	L ₇₅₃	L ₇₅₄	L ₇₅₅	L ₇₅₆	L ₇₅₇	L ₇₅₈	L ₇₅₉	L ₇₆₀	L ₇₆₁	L ₇₆₂	L ₇₆₃	L ₇₆₄	L ₇₆₅	L ₇₆₆	L ₇₆₇	L ₇₆₈	L ₇₆₉	L ₇₇₀	L ₇₇₁	L ₇₇₂	L ₇₇₃	L ₇₇₄	L ₇₇₅	L ₇₇₆	L ₇₇₇	L ₇₇₈	L ₇₇₉	L ₇₈₀	L ₇₈₁	L ₇₈₂	L ₇₈₃	L ₇₈₄	L ₇₈₅	L ₇₈₆	L ₇₈₇	L ₇₈₈	L ₇₈₉	L ₇₉₀	L ₇₉₁	L ₇₉₂	L ₇₉₃	L ₇₉₄	L ₇₉₅	L ₇₉₆	L ₇₉₇	L ₇₉₈	L ₇₉₉	L ₈₀₀	L ₈₀₁	L ₈₀₂	L ₈₀₃	L ₈₀₄	L ₈₀₅	L ₈₀₆	L ₈₀₇	L ₈₀₈	L ₈₀₉	L ₈₁₀	L ₈₁₁	L ₈₁₂	L ₈₁₃	L ₈₁₄	L ₈₁₅	L ₈₁₆	L ₈₁₇	L ₈₁₈	L ₈₁₉	L ₈₂₀	L ₈₂₁	L ₈₂₂	L ₈₂₃	L ₈₂₄	L ₈₂₅	L ₈₂₆	L ₈₂₇	L ₈₂₈	L ₈₂₉	L ₈₃₀	L ₈₃₁	L ₈₃₂	L ₈₃₃	L ₈₃₄	L ₈₃₅	L ₈₃₆	L ₈₃₇	L ₈₃₈	L ₈₃₉	L ₈₄₀	L ₈₄₁	L ₈₄₂	L ₈₄₃	L ₈₄₄	L ₈₄₅	L ₈₄₆	L ₈₄₇	L ₈₄₈	L ₈₄₉	L ₈₅₀	L ₈₅₁	L ₈₅₂	L ₈₅₃	L ₈₅₄	L ₈₅₅	L ₈₅₆	L ₈₅₇	L ₈₅₈	L ₈₅₉	L ₈₆₀	L ₈₆₁	L ₈₆₂	L ₈₆₃	L ₈₆₄	L ₈₆₅	L ₈₆₆	L ₈₆₇	L ₈₆₈	L ₈₆₉	L ₈₇₀	L ₈₇₁	L ₈₇₂	L ₈₇₃	L ₈₇₄	L ₈₇₅	L ₈₇₆	L ₈₇₇	L ₈₇₈	L ₈₇₉	L ₈₈₀	L ₈₈₁	L ₈₈₂	L ₈₈₃	L ₈₈₄	L ₈₈₅	L ₈₈₆	L ₈₈₇	L ₈₈₈	L ₈₈₉	L ₈₉₀	L ₈₉₁	L ₈₉₂	L ₈₉₃	L ₈₉₄	L ₈₉₅	L ₈₉₆	L ₈₉₇	L ₈₉₈	L ₈₉₉	L ₉₀₀	L ₉₀₁	L ₉₀₂	L ₉₀₃	L ₉₀₄	L ₉₀₅	L ₉₀₆	L ₉₀₇	L ₉₀₈	L ₉₀₉	L ₉₁₀	L ₉₁₁	L ₉₁₂	L ₉₁₃	L ₉₁₄	L ₉₁₅	L ₉₁₆	L ₉₁₇	L ₉₁₈	L ₉₁₉	L ₉₂₀	L ₉₂₁	L ₉₂₂	L ₉₂₃	L ₉₂₄	L ₉₂₅	L ₉₂₆	L ₉₂₇	L ₉₂₈	L ₉₂₉	L ₉₃₀	L ₉₃₁	L ₉₃₂	L ₉₃₃	L ₉₃₄	L ₉₃₅	L ₉₃₆	L ₉₃₇	L ₉₃₈	L ₉₃₉	L ₉₄₀	L ₉₄₁	L ₉₄₂	L ₉₄₃	L ₉₄₄	L ₉₄₅	L ₉₄₆	L ₉₄₇	L ₉₄₈	L ₉₄₉
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SPe+

Additional content of SoundPLANessential +

is available exclusively as an annual subscription license, providing access to the latest features and expert support. It also includes additional valuable tools to enhance modeling and documentation capabilities.

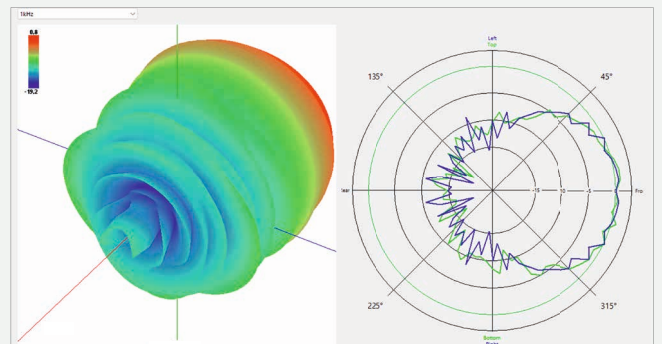
The advanced map interface allows geometric objects to be imported directly from OpenStreetMap along with their properties for a selected area. This saves a significant amount of time and further simplifies the creation of model data.



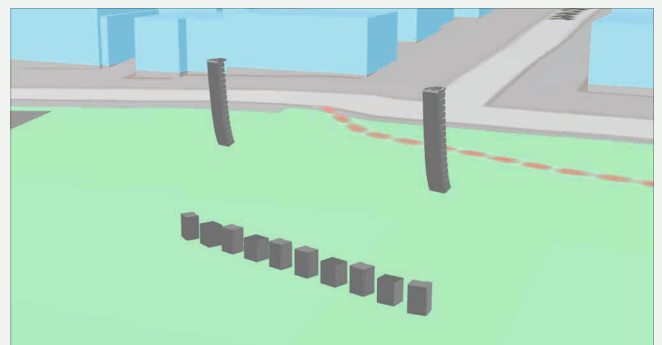
Map interface with integration of Google Maps and OpenStreetMap for easy selection of the investigation area. Enables direct transfer of background maps and/or geospatial data for accurate positioning and context.



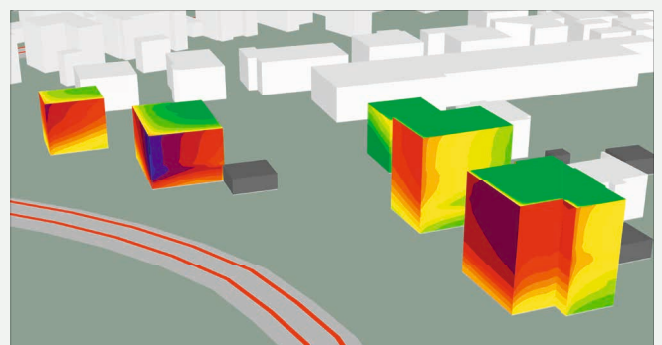
When modeling complex industrial facilities, the consideration of directivity effects of noise sources is a critical factor. SoundPLANessential+ allows you to add 2D or 3D frequency-dependent directivities to your sources and include them in the noise prediction calculation. You can use elements from our included directivity library, define your own, easily import existing loudspeaker data (such as CLF files), or generate stack directivity effects based on the ISO 9613-2:2024 standard.



Unlike traditional approaches that rely on static, pre-calculated directivity data - typically valid only for a given distance and unable to represent interactions between sources - SDE enables dynamic, physically accurate simulation of entire sound systems, including their spatial coherence behavior. This is particularly relevant for predicting environmental noise emissions from large-scale events, where conventional methods are inadequate for handling multiple interacting arrays, varying propagation paths, or the effects of meteorological conditions. The integrated SDE methodology allows simulation of the entire signal chain, spectral content, system tuning, and propagation effects.



Generate detailed facade noise contour maps for selected buildings and present them within comprehensive 3D visualizations. This approach allows for an in-depth analysis of noise impact, providing clear and informative insights into noise distribution around the structures.



The additional module

BA Outside is ideal for calculating airborne sound insulation against outdoor noise. Although the module can be used independently of SoundPLANessential by entering the sound pressure levels in front of the facade manually, it offers significant advantages using both together. Geometry and calculation results can easily be transferred and linked to the facades. The clear structure makes it easy to manage even large projects with hundreds of buildings. The rooms can have any facade and roof configuration to be examined. The calculation includes both direct and flanking transmissions. Images like photos or floor plans can be stored; additionally, owners and tenants can be assigned so all needed information is readily available to make appointments and to address letters. The facades of a room can be made up of walls, windows, doors, roller shutter boxes, ventilators, and roof surfaces in any combination. Components are selected from a comprehensive, integrated library with Insul connectivity. All components used in the current project are centrally stored and then assigned to the facades. Any changes to these components automatically update all linked facades and trigger recalculation. If required interior noise levels are no longer met, a notification appears with a direct link to the affected room, allowing quick resolution of the issue. The documentation of the results is flexible. It can be a printout of the entire project with all objects and elements or a list of necessary actions and their associated costs.

The screenshot displays the SoundPLANessential 6.0 - BA Outside software interface. The main window shows a room geometry evaluation for a living room. The room is defined by a width of 10.50 m and a depth of 2.50 m, resulting in an area of 26.25 m². The room height is set to 2.50 m. The room usage is 'Living room PR, GR, HOS' with a claimed L2,nT of 30 dB(A) and a result of 23.6 dB(A). The exterior level is 62 dB(A). The calculation results show a result of 62 dB(A) for the L2,nT and 38.7 dB(A) for the D2m,nT + C, tr. The component list includes a facade, window, and door.

Type	Count	Component list	Rw+Ctr [dB]	Dn,e+Ctr [dB]	Width [m]	Height [m]	Area [m²]	L2,nT [dB(A)]
Facade	1	240 mm sand-lime brick 1,8 interior plaster on both sides	52,0	-	10,50	2,50	20,79	7,6
Window / Door	2	Glass, insulating, phonostop(s), 22/37	31,0	-	1,25	1,68	2,10	21,7
Window / Door	1	Glass, insulating, phonostop(s), 22/37	31,0	-	0,75	1,68	1,26	16,4

Interior noise level evaluation according to EN ISO 12354-3.

Standards:

2. FlugLSV: 2009 · 24. BImSchV · DIN 4109: 1989/2016/2018 · EN ISO 12354-3: 2017 (single values) · VDI 2719: 1987

The image shows a series of four panels from a software-generated report:

- Standard documentation...:** Includes project information for 'Banat Road 11', a photograph of the building, and contact details for the main contact person.
- ...of a room showing all...:** Displays a floor plan of 'Child #1 / Dwelling #04 / Floor 4 / Banat Road 11' with room dimensions and a table of facade components.
- ...definitions and calculations...:** Provides detailed calculations for the 'Living / Dining room / Dwelling #04 / Floor 4 / Banat Road 11', including room geometry, facade details, and a table of existing components.
- Overview of measures and costs:** A summary table showing the total cost for the project, broken down by room and measure.

Highlights SoundPLANessential

Overview of Program Features and Differences

This comparison outlines the key features of SoundPLANessential and SoundPLANessential+ highlighting some of their unique capabilities and differences.

	SoundPLANessential SPe	SoundPLANessential + SPe+
No artificial limitation of the model data	•	•
Various geometry import interfaces	•	•
Data and attribute import for OSM via convenient map interface		•
Definition and calculation of traffic noise (road/rail) or commercial and leisure noise	•	•
Free definition and utilisation of directional effects for point, line and area noise sources		•
Definition and calculation of electro-acoustic installation	• 1)	•
Utilisation of all available processors and threads	•	•
Comprehensive tabular documentation	•	•
Graphical documentation - Level tables with limit isophones - Color-coded noise map - Color-coded 3D facade noise maps	• •	• • •
Building Acoustics - Outside	• 2)	•
Available with a perpetual license for long-term use	•	
Available as a Cloud License (CL), providing flexible, time-limited access	•	•

1) Only export data from d&b audiotechnik software ArrayCalc (dbac2 and dbpr format).

2) Can be purchased as an additional option and is not included in the basic SoundPLANessential package.

SoundPLANessential offers a range of options that cater to both occasional users seeking a straightforward workflow and experienced professionals who need solutions for acoustically demanding projects.

If you would like more information or wish to schedule a personalized presentation, please contact your local SoundPLAN distributor. Together with our global network of partners, we are dedicated to ensuring that everyone working in the field of noise protection receives the support and answers they need.

Software Designers and
Consulting Engineers
Experts for Noise Control
and Room Acoustics



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