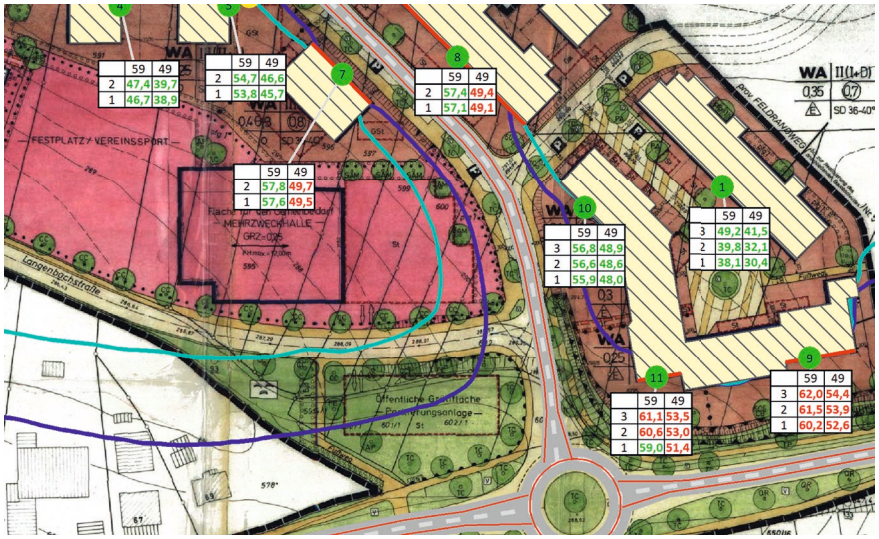
SoundPLAN®
essential



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

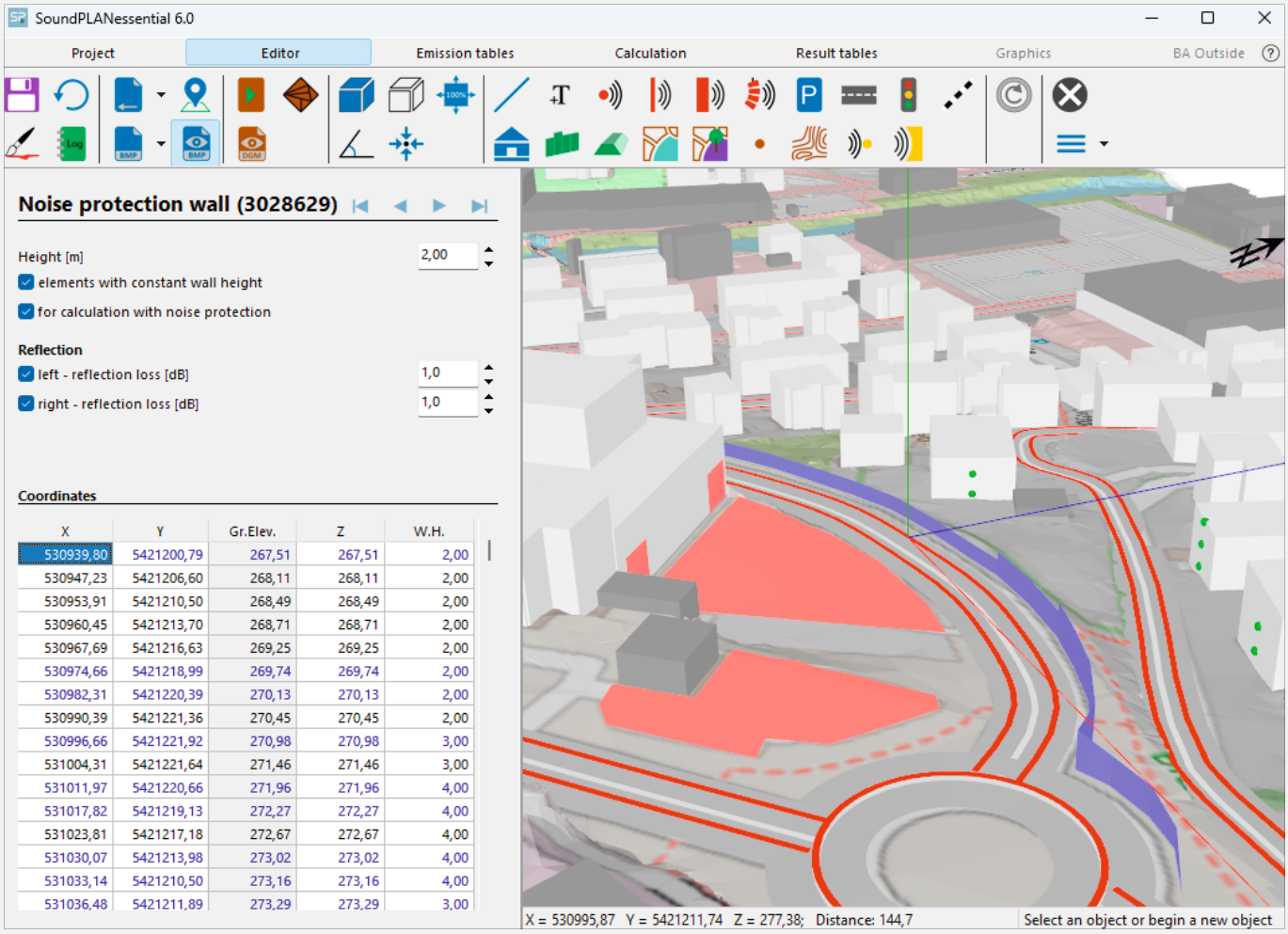
Multithreading - use the full power of your PC
For single receiver points, limit contour lines and grid noise maps

Pleasing 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 workflows 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.



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

Modeling of the Geometry

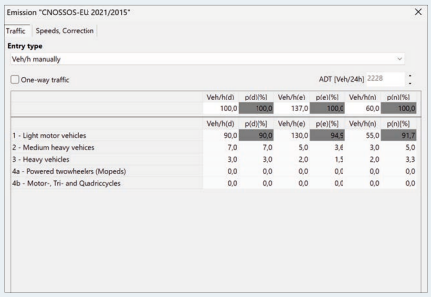
All geometry data are entered in the SoundPLANessential editor. Aside from the site map presentation, the data can also be checked for a consistent noise model in the 3D presentation. The easiest way to create the model data is to import a geo-referenced bitmap and digitize the data on top of it. The interactive map interface to Google Maps and OpenStreetMap makes it simple to get acquire 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):

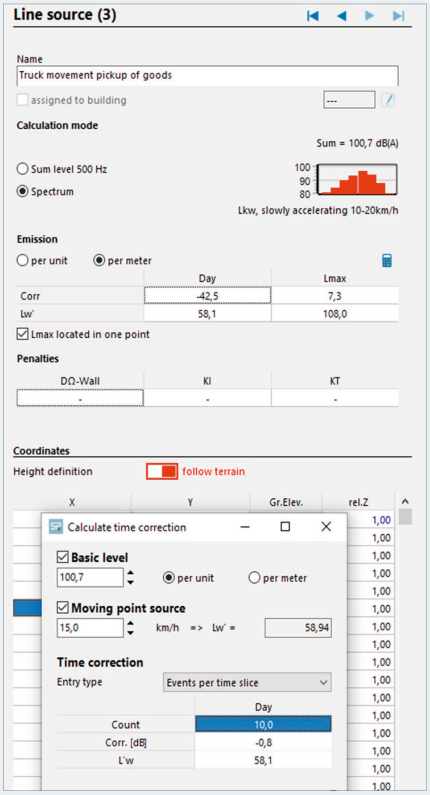
- Noise sources: Road (with traffic junctions), railway, parking lot, point, line and area source (assigned or not assigned to a building), stages (d&b audiotechnik GmbH)
- Ground absorption and attenuation areas
- Elevation lines and spot heights
- Buildings, noise protection walls and earth berms
- 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

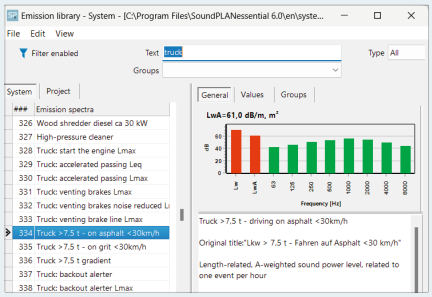
SoundPLANessential can calculate the noise from roads, railways, industry sources and parking lots. The emission level of the roads is calculated from the traffic volume, the distribution to the vehicle types and other emission parameters such as road surface and speed. The emission calculation of railway 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 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.



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



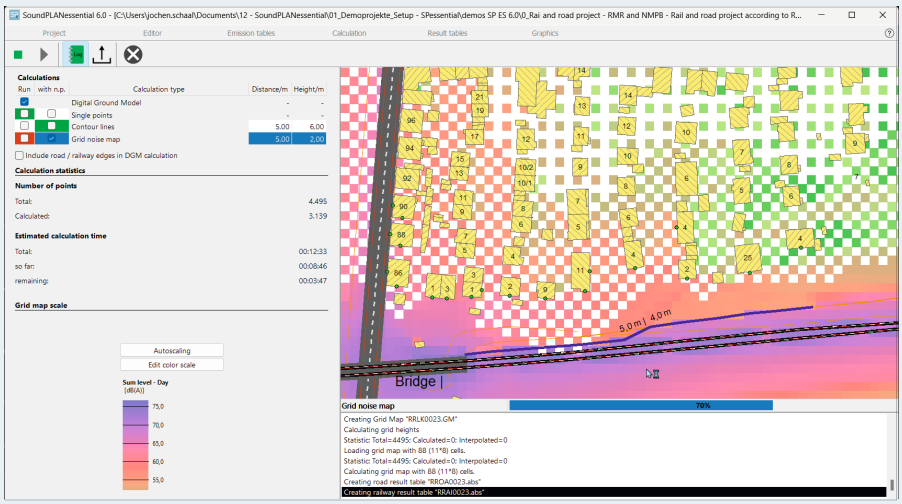
Definition of a moving point sound source with specification of the sound power level and speed.



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

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.



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

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

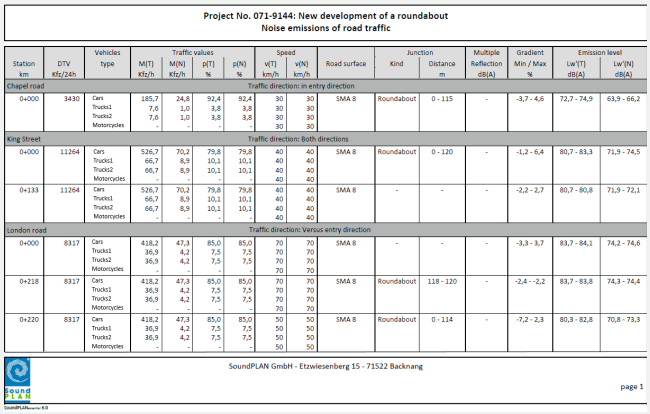
Industry:
ASJ CN-Model 2007 · BS 5228-1: 2009 · BUB: 2021 · CNOSSOS-EU: 2021 · HJ 2.4: 2021 · ISO 9613-2: 1996/2024* · Nord2000 · ÖAL 28: 2021 · ÖNORM ISO 9613-2: 2008 *) without cylinders and informative annexes

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

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 Kfz/24h	Vehicles type	Traffic values M(T) Kfz/h	M(N) Kfz/h	p(T) %	p(N) %	Speed v(T) km/h	v(N) km/h	Road surface	Junction Kind	Junction Distance m	Multiple Reflection dB(A)	Gradient Min / Max %	Emission level Lw'(T) dB(A)	Emission level Lw'(N) dB(A)
Chapel road			Traffic direction: in entry direction												
0+000	3430	Cars	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
		Trucks1	7,6	1,0	3,8	3,8	30	30							
		Trucks2	7,6	1,0	3,8	3,8	30	30							
		Motorcycles	-	-	-	-	30	30							
King Street			Traffic direction: Both directions												
0+000	11264	Cars	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
		Trucks1	66,7	8,9	10,1	10,1	40	40							
		Trucks2	66,7	8,9	10,1	10,1	40	40							
		Motorcycles	-	-	-	-	40	40							
0+133	11264	Cars	526,7	70,2	79,8	79,8	40	40	SMA 8	-	-	-	-2,2 - 2,7	80,7 - 80,8	71,9 - 72,1
		Trucks1	66,7	8,9	10,1	10,1	40	40							
		Trucks2	66,7	8,9	10,1	10,1	40	40							
		Motorcycles	-	-	-	-	40	40							
London road			Traffic direction: Versus entry direction												
0+000	8317	Cars	418,2	47,3	85,0	85,0	70	70	SMA 8	-	-	-	-3,3 - 3,7	83,7 - 84,1	74,2 - 74,6
		Trucks1	36,9	4,2	7,5	7,5	70	70							
		Trucks2	36,9	4,2	7,5	7,5	70	70							
		Motorcycles	-	-	-	-	70	70							
0+218	8317	Cars	418,2	47,3	85,0	85,0	70	70	SMA 8	Roundabout	118 - 120	-	-2,4 - -2,2	83,7 - 83,8	74,3 - 74,4
		Trucks1	36,9	4,2	7,5	7,5	70	70							
		Trucks2	36,9	4,2	7,5	7,5	70	70							
		Motorcycles	-	-	-	-	70	70							
0+220	8317	Cars	418,2	47,3	85,0	85,0	50	50	SMA 8	Roundabout	0 - 114	-	-7,2 - 2,3	80,3 - 82,8	70,8 - 73,3
		Trucks1	36,9	4,2	7,5	7,5	50	50							
		Trucks2	36,9	4,2	7,5	7,5	50	50							
		Motorcycles	-	-	-	-	50	50							

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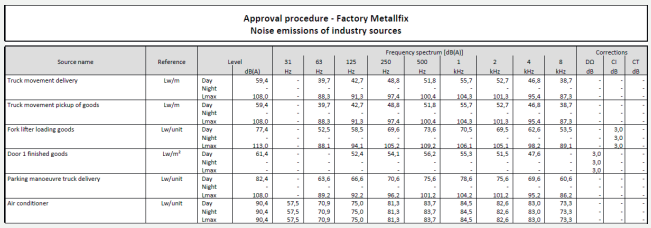
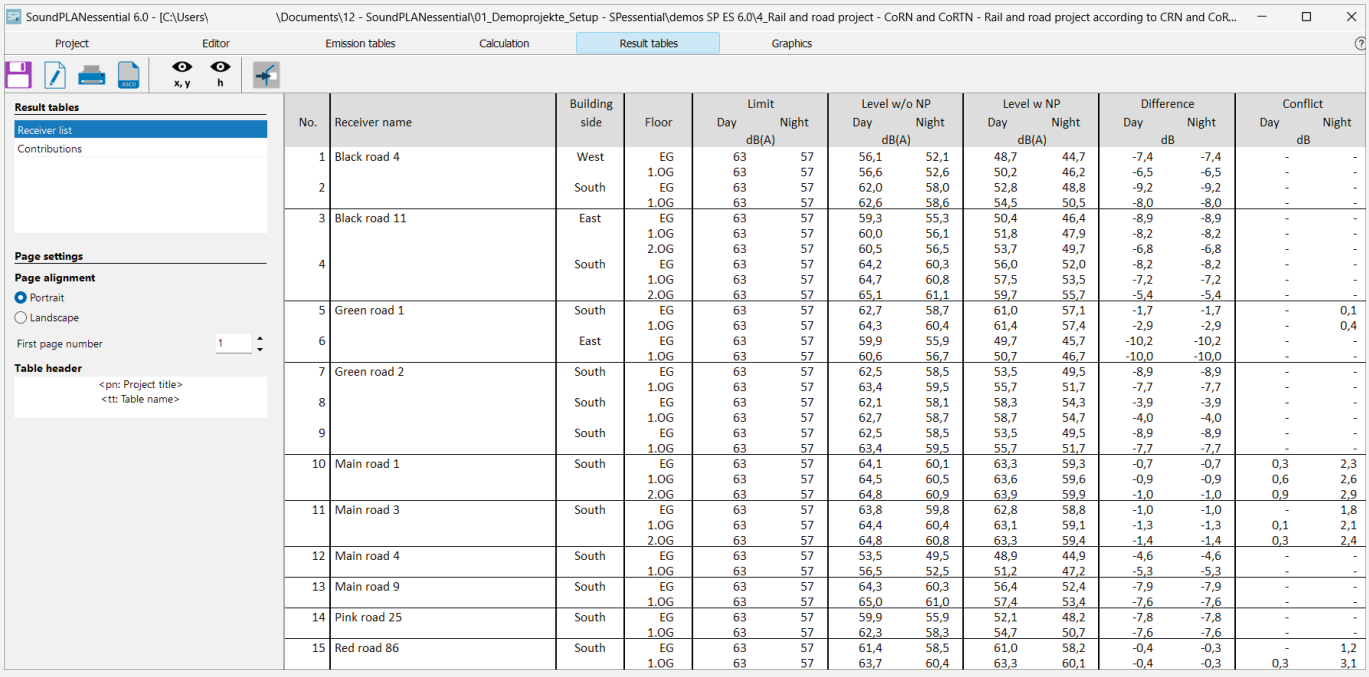
Comprehensive tabular overview of all industrial noise sources, including day and night Leq values as well as Lmax levels where available. Each source is documented with full octave-band frequency spectra, reference units, and correction values such as facade reflection, impulsiveness, and tonality.



Approval procedure - Factory Metallfix
Noise emissions of industry sources

Source name	Reference	Level	Level dB(A)	Frequency spectrum (dB(A)) 31 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Corrections DO dB	CI dB	CT dB
Truck movement delivery	Lw/m	Day	59,4	-	39,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-
		Night	-	-	-	-	-	-	-	-	-	-	-	-	-
		Lmax	108,0	-	88,3	91,3	97,4	100,4	104,3	101,3	95,4	87,3	-	-	-
Truck movement pickup of goods	Lw/m	Day	59,4	-	39,7	42,7	48,8	51,8	55,7	52,7	46,8	38,7	-	-	-
		Night	-	-	-	-	-	-	-	-	-	-	-	-	-
		Lmax	108,0	-	88,3	91,3	97,4	100,4	104,3	101,3	95,4	87,3	-	-	-
Fork lifter loading goods	Lw/unit	Day	77,4	-	52,5	58,5	69,6	73,6	70,5	69,5	62,6	53,5	-	3,0	-
		Night	-	-	-	-	-	-	-	-	-	-	-	3,0	-
		Lmax	113,0	-	88,1	94,1	105,2	109,2	106,1	105,1	98,2	89,1	-	3,0	-
Door 1 finished goods	Lw/m²	Day	61,4	-	-	52,4	54,1	56,2	55,3	51,5	47,8	-	3,0	-	-
		Night	-	-	-	-	-	-	-	-	-	-	3,0	-	-
		Lmax	-	-	-	-	-	-	-	-	-	-	3,0	-	-
Parking manoeuvre truck delivery	Lw/unit	Day	82,4	-	63,6	66,6	70,6	75,6	78,6	75,6	69,6	60,6	-	-	-
		Night	-	-	-	-	-	-	-	-	-	-	-	-	-
		Lmax	108,0	-	89,2	92,2	96,2	101,2	104,2	101,2	95,2	86,2	-	-	-
Air conditioner	Lw/unit	Day	90,4	57,5	70,9	75,0	81,3	83,7	84,5	82,6	83,0	73,3	-	-	-
		Night	90,4	57,5	70,9	75,0	81,3	83,7	84,5	82,6	83,0	73,3	-	-	-
		Lmax	90,4	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\demos SP ES 6.0\4_Rail and road project - CoRN and CoRTN - Rail and road project according to CRN and CoR...

Project | Editor | Emission tables | Calculation | Result tables | Graphics

Result tables
Receiver list
Contributions

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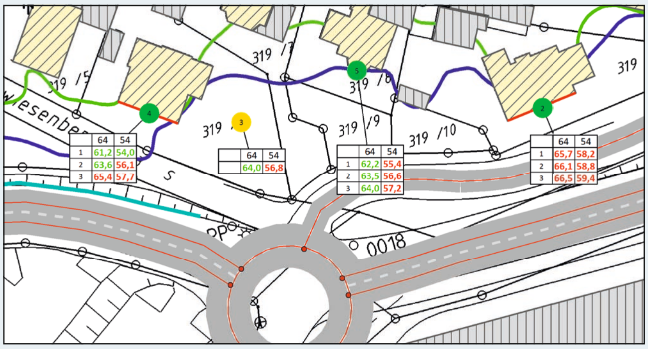
No.	Receiver name	Building side	Floor	Limit Day	Limit Night	Level w/o NP Day	Level w/o NP Night	Level w NP Day	Level w NP Night	Difference Day	Difference Night	Conflict Day	Conflict Night
				dB(A)		dB(A)		dB(A)		dB		dB	
1	Black road 4	West	EG	63	57	56,1	52,1	48,7	44,7	-7,4	-7,4	-	-
			1.OG	63	57	56,6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

Display of the geometry and calculated receiver results, shown as level tables that provide a clear and compact overview within the selected map. In addition, color-coded limit contourlines for all time slices enhance the visual interpretation of the result.

Approval procedure - Factory Metallfix
Mean propagation

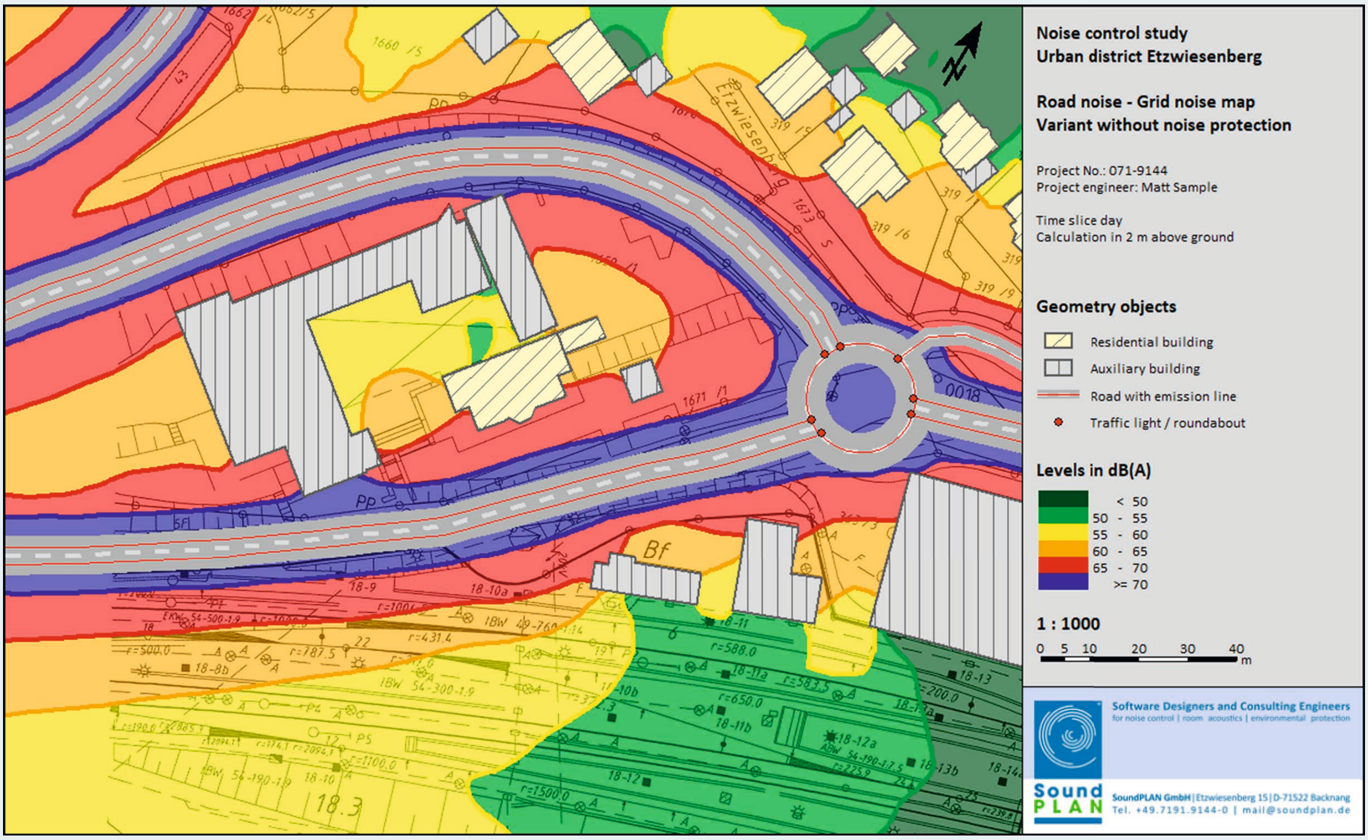
Source name	Source type	Time slice	L'w dB(A)	Lw dB(A)	KI dB	KT dB	DΩ dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	Cmet dB	dLother/dB	dLw dB	ZR dB	Lr dB(A)
Industry lane 3 , EG																					
Air conditioner	Point	Day	70,3	70,3	0,0	0,0	0,0	142,45	-54,1	2,1	-4,8	-1,0	0,0	0,0	0,0	12,6	0,0	0,0	0,0	0,0	12,6
		Night	70,3	70,3	0,0	0,0	0,0	142,45	-54,1	2,1	-4,8	-1,0	0,0	0,0	0,0	12,6	0,0	0,0	0,0	0,0	12,6
		Lmax	70,3	70,3	0,0	0,0	0,0	142,45	-54,1	2,1	-4,8	-1,0	0,0	0,0	0,0	12,6	0,0	0,0	0,0	0,0	12,6
Door 1 finished goods	Area	Day	63,7	89,3	0,0	0,0	3,0	110,63	-51,9	2,0	0,0	-0,4	0,0	0,0	1,5	43,4	0,0	0,0	-4,8	0,0	38,7
		Night	63,7	89,3	0,0	0,0	3,0	110,63	-51,9	2,0	0,0	-0,4	0,0	0,0	1,5	43,4	0,0	0,0	0,0	0,0	0,0
Fork lifter loading goods	Area	Day	54,4	82,9	3,0	0,0	0,0	121,53	-52,7	1,7	0,0	-0,6	0,0	0,0	2,4	33,6	0,0	0,0	-6,8	0,0	29,8
		Night	54,4	82,9	3,0	0,0	0,0	121,53	-52,7	1,7	0,0	-0,6	0,0	0,0	2,4	33,6	0,0	-3,0	0,0	0,0	0,0
		Lmax	113,0	113,0	0,0	0,0	0,0	136,00	-53,7	1,9	0,0	-0,6	0,0	0,0	5,9	66,5	0,0	0,0	0,0	0,0	66,5
Parking manoeuvre truck delivery	Point	Day	90,8	90,8	0,0	0,0	0,0	99,98	-51,0	1,8	0,0	-0,6	0,0	0,0	1,4	42,4	0,0	0,0	-7,8	0,0	34,6
		Night	90,8	90,8	0,0	0,0	0,0	99,98	-51,0	1,8	0,0	-0,6	0,0	0,0	1,4	42,4	0,0	0,0	0,0	0,0	0,0
		Lmax	108,0	108,0	0,0	0,0	0,0	99,98	-51,0	1,8	0,0	-0,6	0,0	0,0	1,4	59,6	0,0	0,0	0,0	0,0	59,6
Truck movement delivery	Line	Day	58,9	79,8	0,0	0,0	0,0	61,87	-46,8	2,0	0,0	-0,4	0,0	0,0	0,4	34,9	0,0	0,0	0,0	0,0	34,9
		Night	58,9	79,8	0,0	0,0	0,0	61,87	-46,8	2,0	0,0	-0,4	0,0	0,0	0,4	34,9	0,0	0,0	0,0	0,0	0,0
		Lmax	108,0	108,0	0,0	0,0	0,0	32,57	-41,2	2,1	0,0	-0,2	0,0	0,0	0,1	68,6	0,0	0,0	0,0	0,0	68,6
Truck pick up goods	Line	Day	58,9	80,9	0,0	0,0	0,0	79,53	-49,0	1,8	0,0	-0,5	0,0	0,0	0,7	33,9	0,0	0,0	0,0	0,0	33,9
		Night	58,9	80,9	0,0	0,0	0,0	79,53	-49,0	1,8	0,0	-0,5	0,0	0,0	0,7	33,9	0,0	0,0	0,0	0,0	0,0
		Lmax	108,0	108,0	0,0	0,0	0,0	48,04	-44,6	1,7	0,0	-0,3	0,0	0,0	0,3	65,0	0,0	0,0	0,0	0,0	65,0
Industry lane 3 , 1.OG																					
Air conditioner	Point	Day	70,3	70,3	0,0	0,0	0,0	142,42	-54,1	2,3	-4,7	-1,0	0,0	0,0	0,0	12,9	0,0	0,0	0,0	0,0	12,9
		Night	70,3	70,3	0,0	0,0	0,0	142,42	-54,1	2,3	-4,7	-1,0	0,0	0,0	0,0	12,9	0,0	0,0	0,0	0,0	12,9
		Lmax	70,3	70,3	0,0	0,0	0,0	142,42	-54,1	2,3	-4,7	-1,0	0,0	0,0	0,0	12,9	0,0	0,0	0,0	0,0	12,9
Door 1 finished goods	Area	Day	63,7	89,3	0,0	0,0	3,0	110,70	-51,9	2,1	0,0	-0,4	0,0	0,0	1,4	43,5	0,0	0,0	-4,8	0,0	38,7
		Night	63,7	89,3	0,0	0,0	3,0	110,70	-51,9	2,1	0,0	-0,4	0,0	0,0	1,4	43,5	0,0	0,0	0,0	0,0	0,0
Fork lifter loading goods	Area	Day	54,4	82,9	3,0	0,0	0,0	121,67	-52,7	1,5	0,0	-0,6	0,0	0,0	1,7	32,7	0,0	0,0	-6,8	0,0	28,9
		Night	54,4	82,9	3,0	0,0	0,0	121,67	-52,7	1,5	0,0	-0,6	0,0	0,0	1,7	32,7	0,0	-3,0	0,0	0,0	0,0
		Lmax	113,0	113,0	0,0	0,0	0,0	136,13	-53,7	1,5	0,0	-0,6	0,0	0,0	5,3	65,5	0,0	0,0	0,0	0,0	65,5
Parking manoeuvre truck delivery	Point	Day	90,8	90,8	0,0	0,0	0,0	100,08	-51,0	1,9	0,0	-0,6	0,0	0,0	1,1	42,2	0,0	0,0	-7,8	0,0	34,4
		Night	90,8	90,8	0,0	0,0	0,0	100,08	-51,0	1,9	0,0	-0,6	0,0	0,0	1,1	42,2	0,0	0,0	0,0	0,0	0,0
		Lmax	108,0	108,0	0,0	0,0	0,0	100,08	-51,0	1,9	0,0	-0,6	0,0	0,0	1,1	59,4	0,0	0,0	0,0	0,0	59,4
Truck movement delivery	Line	Day	58,9	79,8	0,0	0,0	0,0	62,13	-46,9	2,0	0,0	-0,4	0,0	0,0	0,3	34,9	0,0	0,0	0,0	0,0	34,9
		Night	58,9	79,8	0,0	0,0	0,0	62,13	-46,9	2,0	0,0	-0,4	0,0	0,0	0,3	34,9	0,0	0,0	0,0	0,0	0,0



The figure below shows a grid-based noise map presented as ISO-dB contour areas, calculated for the daytime period and at a height of 2 meters above ground level. The map displays the spatial distribution of sound levels using color-coded contours, making it easy to identify high and low exposure zones across the study area.

The results can be shown separately for different time slices (e.g., day, evening, night) and for different source groups, which may include road traffic, railways, parking areas, industrial sources, or the combined total. This allows for flexible evaluation and clear visualization of individual and cumulative noise contributions.

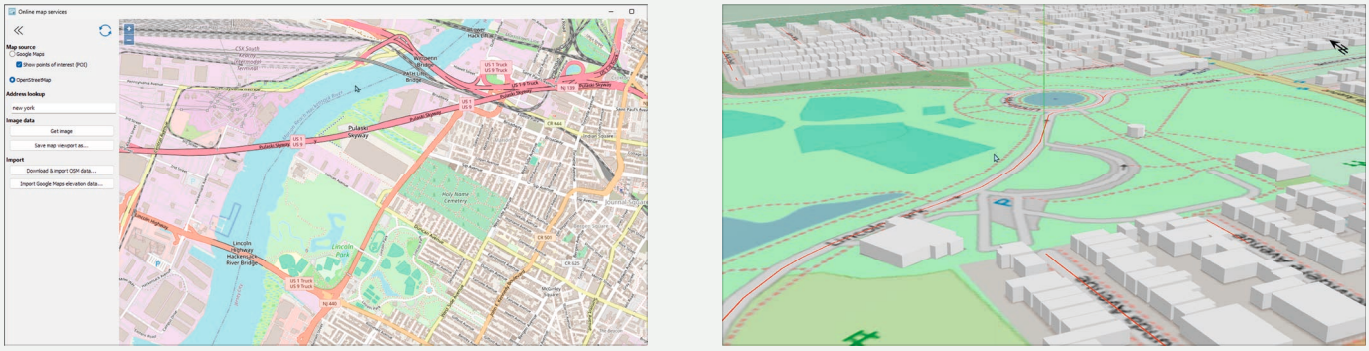
A detailed background map provides geospatial context, linking the acoustic data to surrounding buildings, infrastructure, and land use. Together with the legend and scale, this output is well-suited for use in technical documentation, planning, and communication with stakeholders.



SPe+

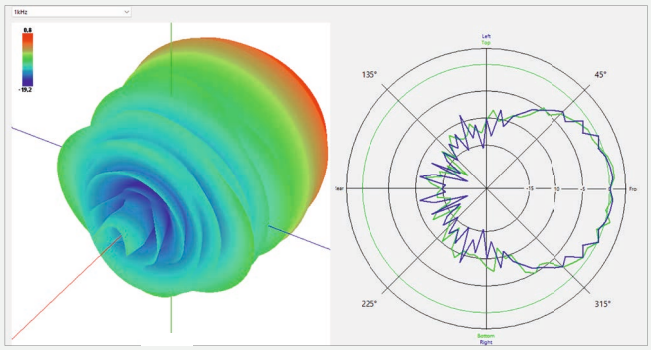
Additional content of SoundPLANessential +
is available exclusively as a cloud license, providing access to the latest features and expert support. It also includes additional valuable tools to enhance modeling and documentation capabilities.

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.

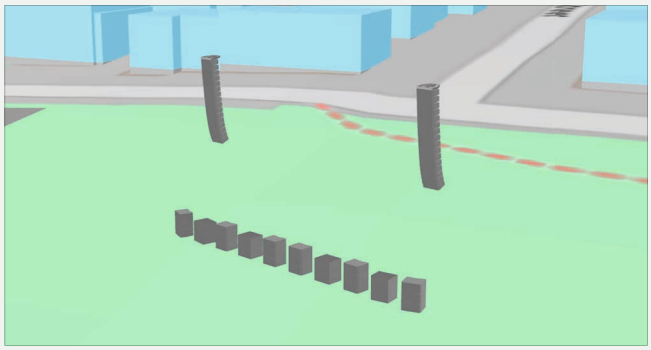


Map interface with integration of Google Maps and OpenStreetMap for easy selection of the investigation area. Enables direct transfer of background maps and/or geospatial data for accurate positioning and context.

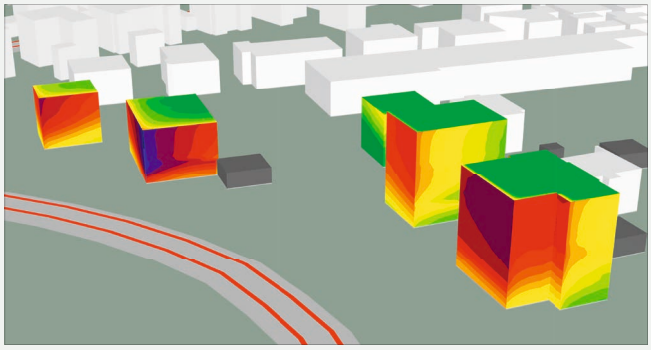
When modeling complex industrial facilities, the consideration of directivity effects of noise sources is a critical factor. SoundPLANessential+ allows you to add 2D or 3D frequency-dependent directivities to your sources and include them in the noise prediction calculation. You can use elements from 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.



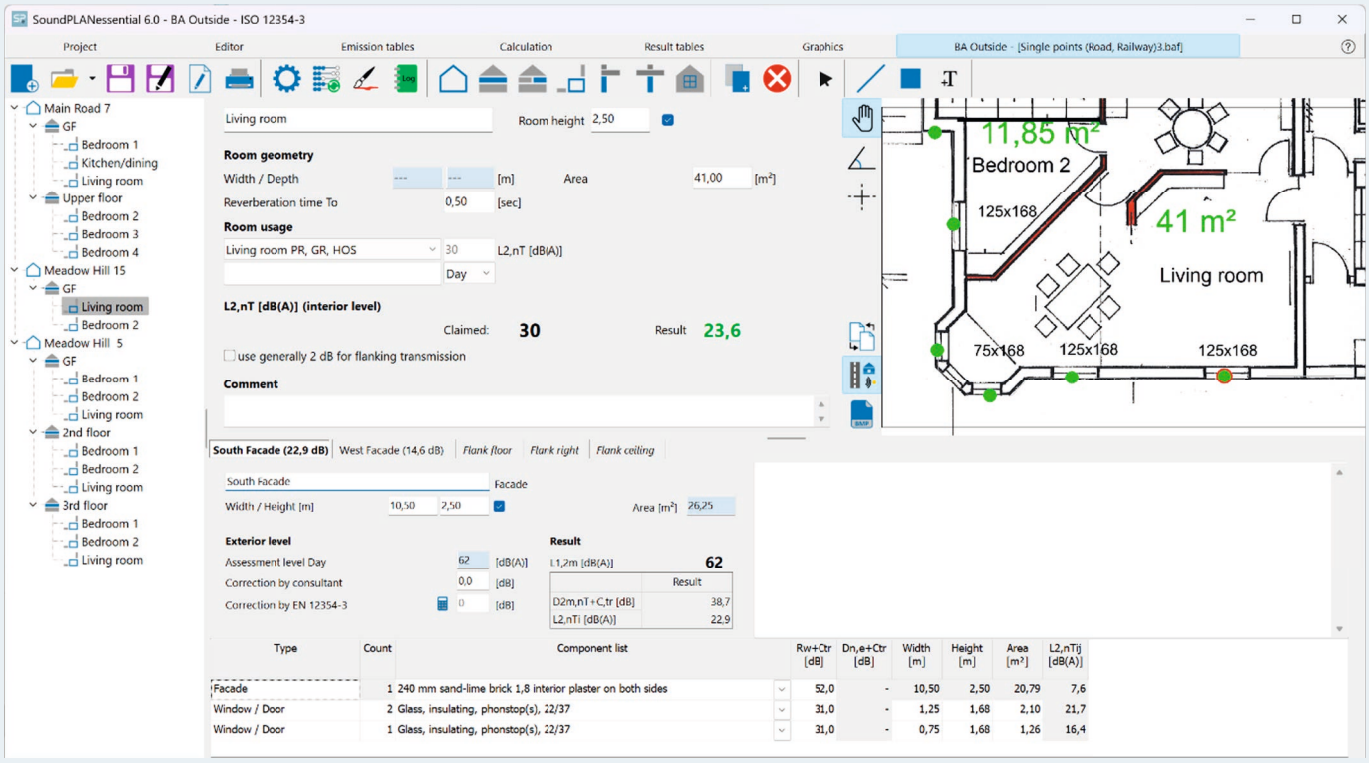
Generate detailed facade noise contour maps for selected buildings and present them within comprehensive 3D visualizations. This approach allows for an in-depth analysis of noise impact, providing clear and informative insights into noise distribution around the structures.



Building Acoustics - Outside

The additional module

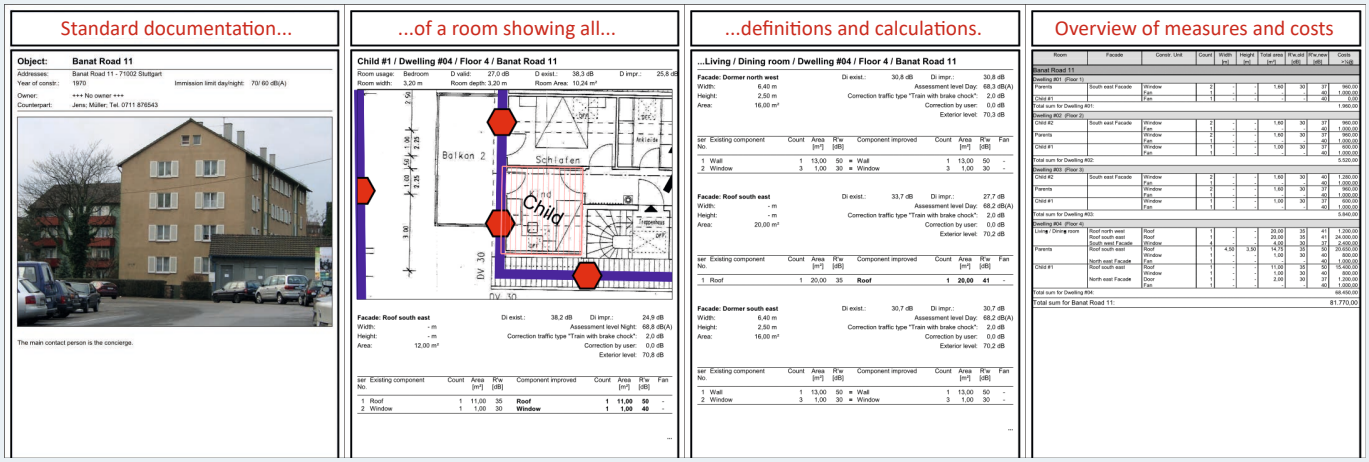
Building Acoustics - Outside can be used to prove the acoustic properties (the transmission loss) of a room envelope against outdoor noise. The module can be used independently from the rest of SoundPLAN. In this case, the user enters the relevant outdoor levels manually. It is, however, more convenient to use previously calculated single point receivers or facade noise maps as the basis. This tool can be used for a single building, but includes all the infrastructure needed to simultaneously investigate hundreds of potential buildings while keeping track of all necessary information. For each building, the user can assign pictures to visualize the object, and assign owners and tenants from a database so all needed information is readily available to make appointments and to address letters. The interior structure of a building is completely flexible. Available objects are floors, apartments (flats) and rooms. The layout of the facade is assigned for each room. The building envelope can consist of an infinite number of elements and outdoor levels. The setup of an element can be a combination of a wall and embedded objects like windows and doors. The user can enter the transmission loss as single, octave or 3rd octave values, or the data can be loaded from a large database. For single panel walls, the transmission loss can even be calculated with an integrated calculator. The project output is flexible, ranging from the total documentation of the whole project with all objects and elements, or just a list of needed actions and associated costs, making Building Acoustics Outside a very useful noise remediation tool.



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



Highlights SoundPLANessential

Overview of Program Features and Differences

This comparison outlines the key features of SoundPLANessential and SoundPLANessential+ highlighting some of there 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 documtation - 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 booth occasional users seeking a straightforward workflow and experienced professionals who need solutions for acoustically demanding projects.

If you need more information or would like to shedule a personalized presentation, please contact one of our local SoundPLAN distributors. We and our products are here to ensure that no question in the field of noise protection remains unanswered.

Software Designers and Consulting Engineers

Experts for Noise Control and Room Acoustics

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