



## Information on IMMI Update 2: Version IMMI 2024 [564]

As of: 2. December 2024

### New Features

#### Relative Spectra

There is now a spectra database in which relative spectra are listed. Relative spectra are emission spectra in which:

- A frequency response is specified
- The A-sum level or the linear level is 0 dB.

Such spectra can be scaled up to any A or LIN sum level while retaining the frequency response.

External database for sound sources

Select database  
Relativ-Spectrac

Relativspectra for scaling of a sound source

C:\ProgramData\IMMI\IMMI\Relativspectra\_GB.ISD

Select spectrum

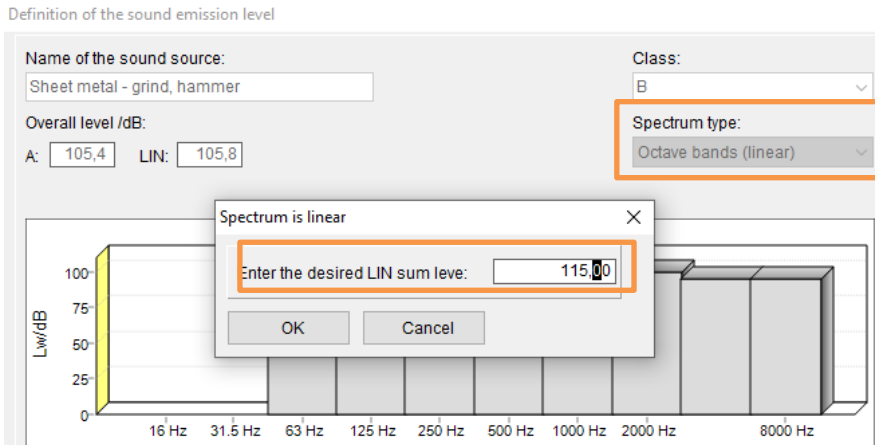
No.	Name	Class	Type	Input	Ref
1	Weißes Rauschen		Octave	LIN	No
2	Weißes Rauschen		Third oct:	LIN	No

The file **Relativspectra\_GB.ISD** (Relativspectra.ISD) is supplied, which contains the spectra listed in the image above. The user can expand this database as required.

Such a spectrum can be inserted from the external spectra database in the sound source dialog, and a desired A or LIN sum level can be set using the **Scale spectra** function (see below).

## Scale Spectrum

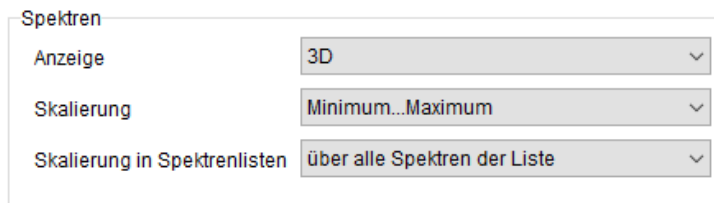
This function can scale a spectrum to a desired A or LIN sum level while retaining the frequency response.



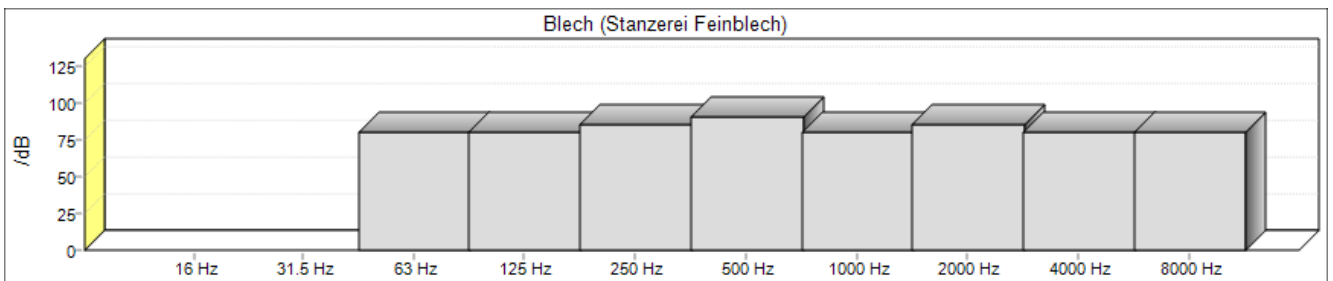
Note: If the spectrum type is "Linear", the LIN sum level can be specified; if the spectrum type is "A-weighted", the A-sum level can be specified.

## Displaying the Spectrum

Several options are now available for displaying the spectra in the dialog boxes. These settings can be made in the **Settings | Environment | Lists and spectra** dialog.



### 3D Display



The spectra display can now also be shown with a 3D effect.

Scaling: Spectra can be scaled either from "0 to maximum value" or from "minimum to maximum value". The latter option is helpful for relative spectra, as these often contain negative values that would not be visible if scaled from "0 - maximum".

Scaling in spectrum lists: Here, you can set whether

- Each spectrum within a list should be scaled individually
- The scaling is determined from all spectra in the list, and therefore, all spectra should be scaled equally.

## Note When Using Ground Effect Elements and ISO 9312-2 Sound Sources

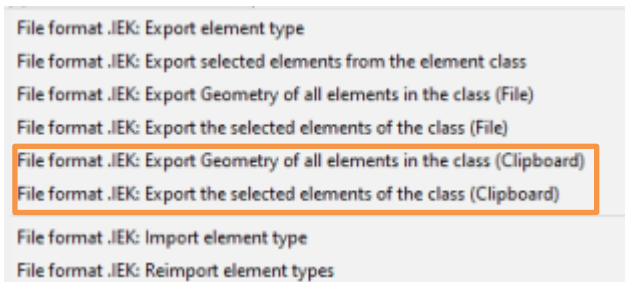
A warning is now issued before the calculation under the following conditions:

- the project contains sound sources according to ISO 9613-2
- the project contains floor attenuation elements
- the *simplified* floor attenuation formula is activated

In this case, the floor elements are **not** included in the calculation. The warning points this out. It is, of course, still possible to calculate.

## Exporting Element Geometries from the List of Elements

The geometry of individual elements or all elements of a class can be exported to the clipboard from the element list dialog.



The geometry is output in text format.

The first 4 lines contain

- the version name of IMMI
- the internal version number
- the name of the element class
- the number of elements

The following is then output for each element:

- The name of the element
- The number of nodes
- The geometry in X, Y, Z, H and whether the height is relative (to the terrain) or absolute. (Z is the absolute height, H the relative height above the terrain)

Example (here elements of the "Parking lot noise study" class)

```
IMMI 2024
563
Parking Lot Noise Study
5
PP_02
7
549430,77      5244732,80      0,50  0,50  R
549429,85      5244724,03      0,50  0,50  R
549427,09      5244697,87      0,50  0,50  R
549431,28      5244698,07      0,50  0,50  R
549458,18      5244701,87      0,50  0,50  R
549460,67      5244732,46      0,50  0,50  R
549430,77      5244732,80      0,50  0,50  R
PP_01
6
549429,85      5244724,03      0,50  0,50  R
549397,41      5244729,06      0,50  0,50  R
549392,93      5244702,37      0,50  0,50  R
549415,05      5244697,31      0,50  0,50  R
549427,09      5244697,87      0,50  0,50  R
549429,85      5244724,03      0,50  0,50  R
```

## Task Name for MALP Grids

When calculating a grid following DIN 4109-2 (relevant external noise level), a new grid is created and saved. A task name can now be assigned to this grid. When reloading the MALP grid, this task name is then displayed in the computer control center.

## Calculation Parameters for Austria (NEW)

In the calculation parameter set "Reference parameters Austria (NEW)", some parameters in the "Photovoltaics" library have been changed compared to the previous version.

## Directional effect: XHN import

When importing XHN files, several files can now be selected and imported simultaneously.

## Changes

### Library HJ 2.4: Street (China)

The following additions and corrections were made to HJ 2.4:

- The PSI criterion (cf. HJ 2.4 Appendix B, Formula B.7 or Figure B.2) was implemented incorrectly. The correct formula is now used here.
- It was not possible to enter the position correction for the road. This is now possible. The position correction is preset to 3 dB for the half-space above the road.
- In the input dialog, the  $L_{w'}(7.5m)$  is displayed in addition to the  $L_{w'}$ . The values differ by 16 dB. (compare HJ 2.4 Formula B7)

### Library HJ 1385: Construction Equipment and Construction Site Vehicles (China)

A database with construction machinery, according to HJ 1385 Annex D Table D1, has been added here. In this table, sound pressures of typical construction machinery are given at a distance of 5 or 10 meters. The sound power is calculated from this information and listed for a quiet, medium-loud, and loud version of the respective machine.

External database for sound sources

Select database  
HJ 1358, (2024) Annex D

Quelle: HJ 1358, (2024) Annex D  
Noise Source Strength of Engineering Machinery

C:\ProgramData\MMIO\BHJ1358\_GB.ISD

Select spectrum

No.	Name	Class	Type	Input	Ref
1	Hydraulic Excavator (quiet)		A-level	A	No
2	Hydraulic Excavator (medium loud)		A-level	A	No
3	Hydraulic Excavator (loud)		A-level	A	No
4	Electric excavator (quiet)		A-level	A	No
5	Electric excavator (medium loud)		A-level	A	No
6	Electric excavator (loud)		A-level	A	No
7	Wheel Loader (quiet)		A-level	A	No
8	Wheel Loader (medium loud)		A-level	A	No
9	Wheel Loader (loud)		A-level	A	No
10	Bulldozer (quiet)		A-level	A	No
11	Bulldozer (medium loud)		A-level	A	No
12	Bulldozer (loud)		A-level	A	No
13	Portable generator (quiet)		A-level	A	No

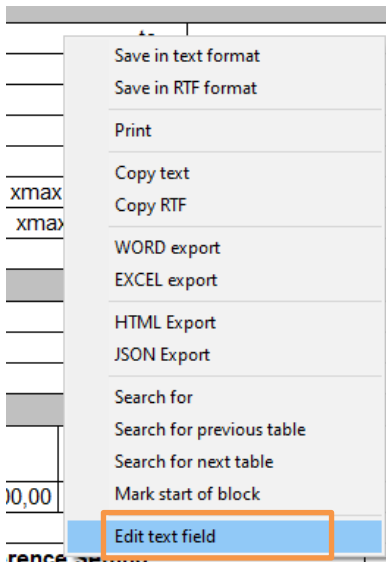
## "Text and Heading" Input Fields in the Old Print Mode

If the reports are printed **without** the report manager, the text field content and text field layout and the heading content and layout could previously be set in the project properties dialog box.

This setting dialog has been removed from the project dialog and can now be found in the menu: **Report | Text fields (list output)**. The dialog box has been slightly redesigned.

The dialog box can **no** longer be opened via the **Project | Project description** menu.

This dialog box can also be opened via the pop-up menu of a displayed list of input data:



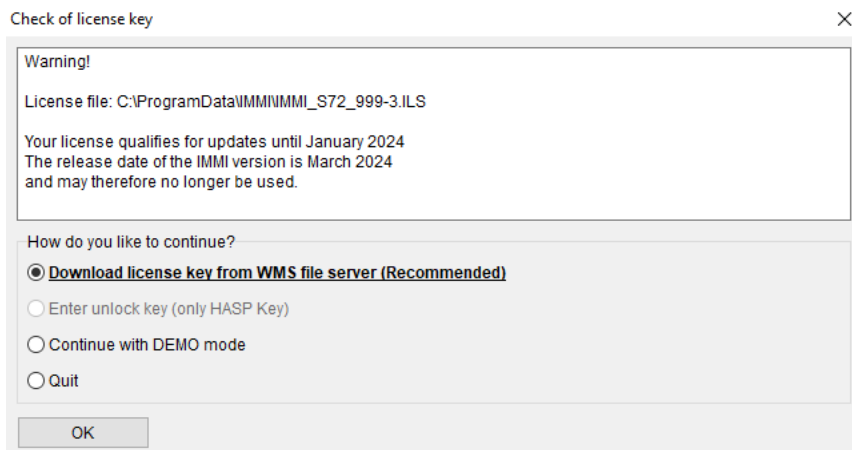
You can also set whether the texts in the list header should be printed in one or three columns. (Settings | Environment | Lists and spectra)

- Text field's font size for text field dialog
- Print texts in the list header in three columns
- Empty row between tables (RTF export)

Note: These dialog boxes are not relevant if the print output is made with the report manager.

### Extending a license

If an IMMI license has expired, the dialog box below appears. The option **Download a current license key from the WMS file server** is now selected by default. Users should execute this option first. In general, the new license keys required are available on the file server.



### Import of GeoTIFFs

Previously, GeoTIFFs available in geographical coordinates (latitude/longitude) could not be imported correctly. This can now be done correctly. The global coordinate system of the project is selected as the target coordinate system. If only the local coordinate system is set in the project, the GeoTIFF coordinates are converted to "UTM northern or southern hemisphere/WGS 84". However, the coordinate system of the project is not converted in this case.

### Classification of Immission Points for Calculations with Assessment (e.g. TA-Lärm)

Until now, a calculation could not be carried out if individual immission points were not assigned to a specific area of use. (e.g. commercial areas, general residential areas, etc.).

This is now possible. For such IPs, no exceedance of guide values is documented (no guide values are defined), and no area-dependent quiet time surcharges are levied for these IPs.

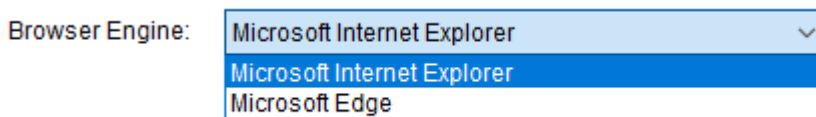
## Import DGM-ASCII Files

It is now possible to import DTM-ASCII files where the column separator is a comma. The decimal separator must then be a point.

## Browser Engine for Edge Browser

The browser engine of Internet Explorer is used for OSM map import. In rare cases, this is not included in the Windows installation. In this case, you can switch to the engine of the new Edge browser and use it to import OSM maps.

This setting can be found under Settings/Environment/Maps and Coordinates:



Note: If the Windows installation does not contain a browser engine, the map import function cannot be used.

## Dosimeter (Indoor Module)

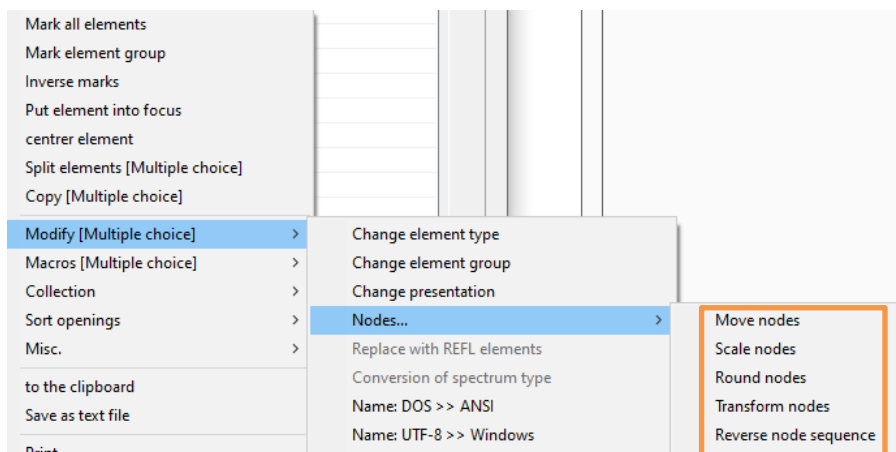
The limit values for Austria have been implemented for the dosimeter function.

The limit values can be found in the publication:

[https://www.arbeitsinspektion.gv.at/Arbeitsstaetten-Arbeitsplaetze/Arbeitsstaetten-Arbeitsplaetze/Kommentierte\\_Verordnung\\_Laerm\\_und\\_Vibrationen.html](https://www.arbeitsinspektion.gv.at/Arbeitsstaetten-Arbeitsplaetze/Arbeitsstaetten-Arbeitsplaetze/Kommentierte_Verordnung_Laerm_und_Vibrationen.html)

## Moving Nodes...

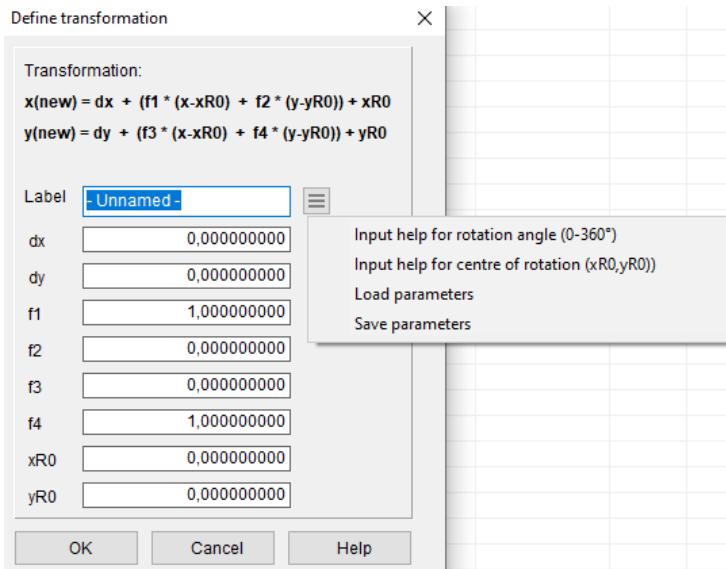
The functions for moving, scaling and transforming nodes are now also accessible via the pop-up menu of the element list:



## Transforming Nodes

The dialog box for transforming nodes has been slightly redesigned.

A rotation point (xR0, yR0) can now also be entered for the **Rotate** function (via the "Rotation angle" input help). Previously, rotation was always around the zero point.



## Site Plan Menu: IDG

If a project uses a digital terrain model (IDG), various additional functions for the IDG can be called up from the site plan menu. The menu items have been arranged slightly differently. The **Move IDG** function has been added. This can move an IDG in the X and/or Y direction.

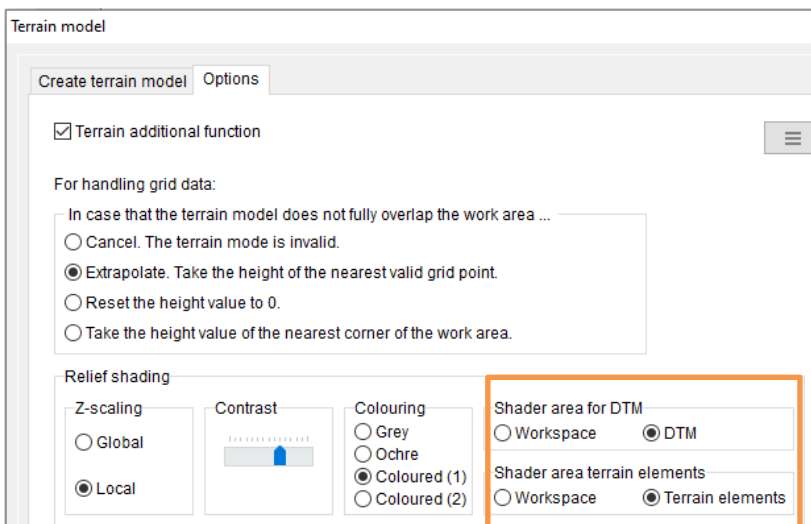
## New Parameters for the Terrain Shading Function

The "Terrain shading" function was previously used to color the entire work area. This also happened if the entire working area was not covered with valid terrain. In such cases, the terrain is extrapolated. However, the shading of the extrapolated terrain is generally not a useful representation. You can now set whether only the area for which a valid terrain exists should be shaded.

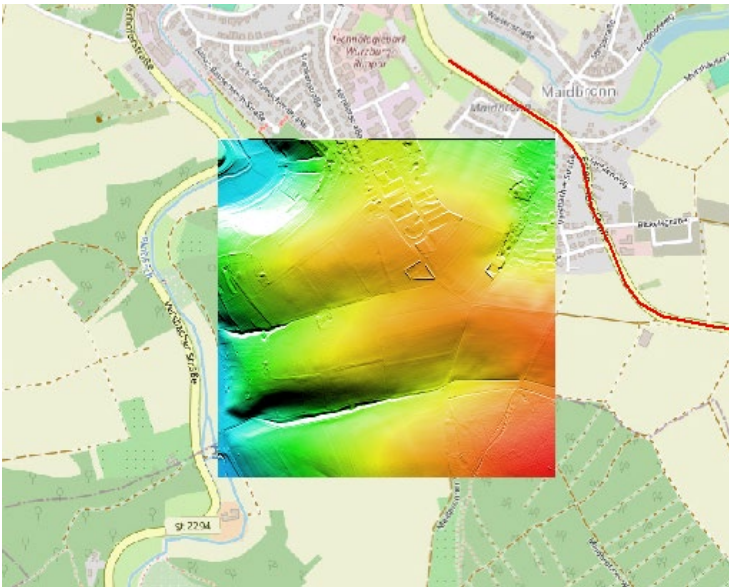
This setting can be made for:

- digital terrain and for
- terrain from elevation points and contour line elements separately.

The settings can be found in the *Options menu* of the terrain model dialog box.



In the image below, only the project area for which there is a valid site is shaded.

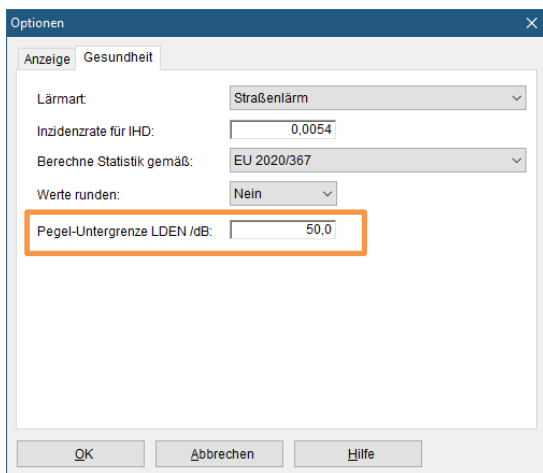


## Programm Interface

The self-defined, non-standard Windows color styles are no longer supported. All control elements (buttons, menus, selection boxes, etc.) are now based exclusively on the current status of the operating system.

## Health Statistics According to Directive EU 2020/367

For the calculation of statistical health variables in accordance with Directive EU 2020/367, sums are formed using the calculated level bands. There is no limit for the lower level band in this directive. Immi, therefore, adds up all calculated bands from 30 dB. However, in some cases, this results in values that are too high, especially for the HA value. The lower level band from which the calculation is to be performed can now be entered in the health statistics dialog.



## Error Corrections

- **Midsized List:** The output of the summed levels in the last emission period (often "Evening" or "Quiet") was incorrect if the sources were summarized (e.g., by element groups). The calculation and listing are now corrected.
- **Element overview:** For wind turbines, the option **Set uncertainty yes/no** was not displayed correctly in the element list. The display is now correct.
- **Task name for grid calculations:** The task name of a grid calculation was not saved with the grid. This is now possible. The name assigned before the grid calculation is now displayed correctly after loading a grid calculation.



- **Meteorology list NMPB/CNOSSOS:** The button for importing ASCII-DWD data was not visible in the last version of IMMI. Now the button is accessible again.
- **Block function – directivity:** When setting the directivity of area sound sources via the block functions, you can use the button to align the directivity perpendicular to the area of the sound source. However, this switch caused the program to crash, and the desired function was not executed. This has now been fixed.
- **Reading façade level result files:** When reading façade level results, an error message could appear indicating that façade level results could not be assigned to houses. This incorrect assignment is most likely due to the calculation process. (Could not yet be clarified conclusively)  
This incorrect assignment could also lead to buildings being colored with the wrong color. When loading, an attempt is now made to restore the correct assignment. In most cases, this is also possible.
- **ISO 9613-2:** When calculating the negative diversions on the reflection path, incorrect calculations of the path length could occur in some cases. In these cases, the value for Abar was not determined correctly.
- **Special function Grid:** The function Grid calculation/Extras/Special functions/Grid points outside an area of use caused a crash. The function was not executed correctly. The error has been fixed.
- **OSM import of Chinese roads:** Some parameters of the road element were not set correctly during import. This could lead to problems when opening or closing the element dialog. All parameters are now set correctly.

**If you have any questions, please do not hesitate to contact us:**

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