

# IMMI

## Façade Level

According to EU Directive 2002/49/EG

### Requirements

According to EU Directive 2002/49/EC on the assessment and management of environmental noise, the exposure of the population must be evaluated by means of noise mapping. The **Façade Level** option of **IMMI** provides a calculation module meeting this requirement. You can calculate the number of people as well as the number of schools and hospitals exposed to noise. Then just evaluate the results.

| DEN   |         |         |        |        |        |        |         |
|---|---------|---------|--------|--------|--------|--------|---------|
| END method - most exposed façade is decisive. |         |         |        |        |        |        |         |
| Category                                      | Sum     | >...55  | >55-60 | >60-65 | >65-70 | >70-75 | >75-... |
|   |         | dB      | dB     | dB     | dB     | dB     | dB      |
| Inhabitant                                    | 3299863 | 2062889 | 337473 | 258759 | 347557 | 255827 | 37295   |
| ... with quiet façade                         | 836520  | 19683   | 78943  | 152432 | 301584 | 247074 | 36805   |
| Dwelling                                      | 3299863 | 2062889 | 337473 | 258759 | 347557 | 255827 | 37295   |
| school  | 2457    | 1713    | 291    | 223    | 168    | 59     | 3       |
| hospital                                      | 755     | 548     | 84     | 55     | 51     | 13     | 4       |
| kindergarten                                  | 0       | 0       | 0      | 0      | 0      | 0      | 0       |

- Determine the most exposed façade, i.e. the one with the highest exposure to noise.
- Determine the least exposed façade, i.e. the one with the lowest exposure to noise.

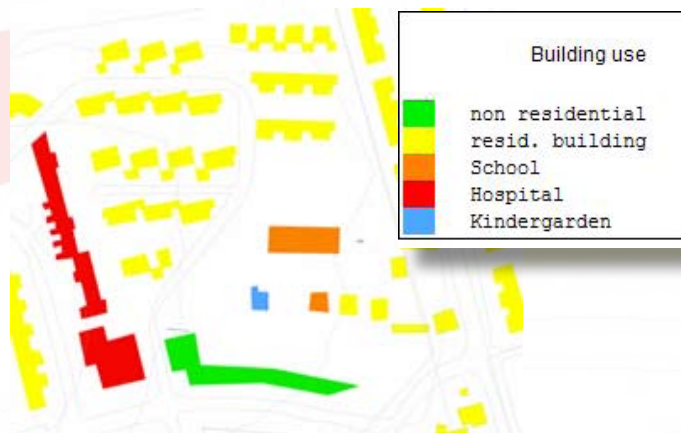
#### Data entry:

- Building type: residential, non residential, school, hospital, kindergarten
- Number of inhabitants per building or distribution of population densities among buildings based on statistical sectors or estimation based on the typical average gross living area per inhabitant and on the building volume
- Floor height
- Position of façade points: optionally according to the EU Directive (default setting) or at user-defined positions, with calculation of reception points on all floors

### Features

#### Evaluation of buildings with inhabitants:

- Determine the number of people in a specific area who are exposed to specific values of a noise index as well as the number of people among this group living in a building with a quiet façade.
- Determine the number of dwellings, hospitals, schools and kindergartens in a specific area which are exposed to specific values of a noise index.



Display of building use

Feature

## Export and display of results:

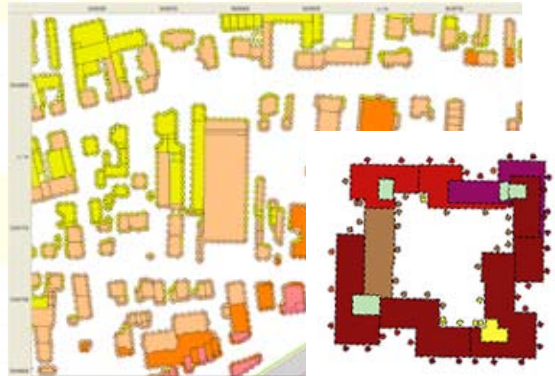
- All statistical evaluations of the exposure analysis provided in tabular form
- Buildings colored according to the level of the façade with the highest noise exposure, in 2D and 3D mode
- Reception points colored according to the level calculated there, in 2D and 3D mode
- Export of results to ArcGIS, MS Excel, MS Word, HTML, and to the clipboard
- As thematic map: buildings colored according to the number of inhabitants per building
- Display of min and max levels on a building
- Specification of the building points with the highest noise exposure
- Specification of orientation

## Additional features:

- Variant-related calculation for different areas and/or specific buildings (i.e. study scenarios)
- Calculation of the entire project or only of a project section defined by the user (i.e. partial evaluation)
- Storage and download of results for future use
- Quick update of statistical results without recalculation of levels after population figures have changed
- Numerous functions for linking and editing calculation results
- Interpolation of façade levels from a noise grid calculated beforehand
- Segmented calculation for large areas (computers in a network and/or multi-core computers)

## Statistical evaluation of results / exposure analysis

- Based on the most exposed façade, according to Annex 6 of the EU Directive (method A)
- Based on the distribution of inhabitants among all façades (proportional to their surface) and the levels calculated there, according to the German assessment method VBEB (method B)
- The two evaluation methods (A and B) can also be used simultaneously.



Façade points in 2D

## Numerous predefined output tables

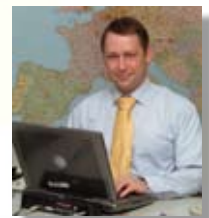
- Sequential listing of all façade reception points calculated at a building (table: all points)
- Allocation of the points calculated to buildings, incl. data on the façade orientation (table: points at buildings)
- List of the lowest and highest levels calculated per building (table: min/max at buildings)
- Statistical evaluation of exposure numbers, building exposure, dwellings, etc., according to Annex 6 of the EU Directive and the German VBEB



**Demo-CD  
available:  
please call for  
your copy**

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