New Features of CadnaA Version 2020

The list of new features offered by CadnaA is subdivided into the following sections:

- Calculation/Configuration
- CadnaA-Objects
- Further New Features
- Miscellaneous
- Import/Export
- CadnaA-Options
- Bug Fixes

*The new features of CadnaA 2019 MR1 and MR2 are in Italics.*

**Calculation|Configuration**

- CNOSSOS: calculations selectable according to CNOSSOS-EU, CNOSSOS-DE (Germany) or CNOSSOS-AT (Austria), (see tabs „Industry“, „Road“, „Railroad“)
- CNOSSOS: default temperature now depends on the CNOSSOS-procedure used
- Nord2000 (Industry): now also available with CadnaA 64-bit
- Nordic Pred. Method (Road): now with option „Norwegian Method“ for the evaluation of the maximum pass-by level
- parameter check (tab „Country“): sets the configuration of calculation according to normative or legal prescriptions (by using different parameter sets)
- dialog Tables|Variants: new option „Save Partial Levels per Variant“
- CNOSSOS-EU Road: new road surface types accord. to CNOSSOS-DE
- CNOSSOS-EU Railway: vertical directivity corrected (now corresponds with the specification in CNOSSOS-DE)
- CNOSSOS-EU Railway: new track types, railhead roughnesses, noise reduction at rail and bridge types accord. to CNOSSOS-DE
- SonROAD18 (Swiss): new road surface types (KB-10 bis KB6, see library Road Surfaces (global))
- SonROAD18 (Swiss): LwA' direct input applies road type „VS_80 Verbindungssstrassen, 80 km/h“ by default
- SonROAD18 (Swiss): new converter for traffic figures
- SonROAD18 (Swiss) now using propagation accord. to ISO 9613-2
- **CNOSSOS-EU**: ground absorption in the source-region $G_s$ may be specified by a string variable at each source (e.g. CNOSSOS\_GS=0.7)

- **NMPB08 (Road, France)**: new updated road types

- **Nordic 96-Road**: calculation of $L_A$max for $n$-th vehicle

- **Nordic 96-Road**: new option “hb interpreted as source height” on/off

- **Nordic 96-Rail**: new train types (BM 71, BM 74/75)

**CadnaA-Objects**

- **receiver**: new attributes EXCEEDVAL, EXCEEDVAL1, 2, 3, 4 reading the exceedances in dB (for the current eval. parameter or eval. parameters 1..4)

- **point/line/area source, parking lot, tennis**: new attributes $TEINWRES\_C, \_D, \_E, \_N$ (C=current eval. parameter) reading the resulting operation time in minutes (also for mixed eval. parameters, e.g. Lde), for operation time options “steady-state”, “minutes” and “diurnal pattern”

- **barrier**: now with cylindrical cantilever (just for 3D view, calculation as with screening edge of a plane cantilever)

- **building noise map & facade points** ([Options|Building Noise Map dialog]): new options “Height is following terrain” and “Lower Receiver max. 20 cm below eave”

- **optimisable source**: now enabling selection of a 2D directivity for a reference point

**Further New Features**

- **Grid Evaluation** ([Extras menu, with options X/XL]): now also for evaluation parameters 1 to 4 (r01 to r04) of the active variant

- **Tables**: new search feature in object tables and in the **Group** table (searches for the name, i.e. attribute BEZ), wildcards * and ? available

- **Tables**: now high-lighting the actual table row (with a single cell being selected)

- **preselect popup (>>)** offering text variables in dialogs **ObjectScan**, **Text Box**, **Text Box** (PlotDesigner), **Building Noise Map** (Arithmetics), **Grid Arithmetics** and **Result Table**

- **new local and global library Directivity** ([Tables menu])

- **new types of directivity**: rotationally symmetrical (as before), 3D directivity and 2D directivity (in angular steps 5/10/15°, in octaves or third-octaves)

**Miscellaneous**

- **new keyword #GLK, SetSTW, <stwnr>** to set the storey number (<stwnr>) in LUA

- **action „Break into Pieces“** ([Modify Objects dialog & context menu]): new option “Split at closest polygon point” (showing the active reference point in blinking mode)
• **dialog Edit Toolbar (Options menu):** new option „Select Floor“ display a list box on the toolbar enabling to select the storey displayed with building evaluations

• Plan cell in Plot-Designer: new list box „Show Floor“ enabling to select the storey being displayed

• **dialog Modify Objects | Modify Attribute:** When several object types are selected now the list box box “Attributes” shows the common attributes.

• **dialog Options 3D-Special:** new option „Take invalid grid points from palette“ (instead of default-green), OFF by default

• **dialog Options | Appearance:** new option „Overlay Display if Iso-Lines“ for object type „Grid: Area“, enables the labeling of iso-lines while displayin iso-areas

• **dialog Options | Appearance:** For lines and fillings a transparency (%) can be specified (with type “Cartographic“, not for type “Simple“).

• Building Evaluation + Facade Points (dialog Options | Appearance): 2D appearance settings for angle (°) and reference (Y-Axis, North, Paper)

• object tables: When selecting the „Delete“ command from the table’s context menu while holding down the CTRL-key all table lines are deleted – after safety prompt.

• local text block CNABATCH (for batch calculations): The coding CALC_RASTER=2 to calculate all variants now also applies with PCSP calculations.

• **new dialog Proxy Server Settings (Options menu):** offering various settings for web access via a proxy server

**Import/Export**

• **File | Import** menu, format „SketchUp“ (for CadnaA 64-bit only): now offers import from Sketchup 2019 x64 (NOTE – not available in CadnaA 32-bit)

• library Directivity, button „Import“: now import of directivities from EASE Ascii (*.xhn)

• import filter “Sketchup 2015”: Layer and group designation are saved as string variables in the memo-window.

• CLF import (common loudspeaker format) via Directivity dialog into the local or global library Directivity (*.clf1, *.clf2)

• bitmap import via WMS: access to WMS server now offering authentification (per user name and password)

• bitmap import from Google Maps, Bing Maps or OSM: URL of a map section can be copied via the clipboard transforming the bitmap according to the selected coordinate system

• options for Google Maps import: default now „Use Bitmap Dimensions“
CadnaA-Options

- options X/XL: Grid Evaluation (**Extras** menu): now also for evaluation parameters 1 to 4 (r01 to r04) of the active variant

- **options X & XL**: new Lua function `cna.get_ini_path()` (reading file path + filename of CADNAA.INI file) and `X:break_lines(Y)` (object X gets broken by object Y)

- **options X & XL**: new command **Lua-Skripts Presets** on **Extras** menu to run Lua scripts automatically

- **options X & XL**: new supplied Lua script "Transfer attributes" for transferring attributes between objects

**Bugfix**

- Sonroad18: error in directivity corrected