



Cadna A[®]

Scope of Performance

CadnaA (Computer Aided Noise Abatement) is the leading software for calculation, presentation, assessment and prediction of environmental noise. Choose from different CadnaA products, depending on the noise type, project size and number of calculation standards or guidelines required. **CadnaA Light** products are efficient tools for smaller project sizes, while **CadnaA Professional** products are powerful tools for larger projects. **CadnaA Basic** is a cost-efficient product when a limited number of calculation standards or guidelines is sufficient. Additionally, **CadnaA CALC** products allow to outsource the calculation to external machines. Generally, CadnaA is available on subscription basis or for purchase and with three different licensing types: single-user licensing, server licensing and cloud licensing.












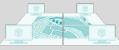

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1 CadnaA products overview

1.1 Quick overview

| |  Noise types |  Standards & guidelines |  Light / Professional |
|--|--|--|---|
|  CadnaA Industry | Industry | | available as: |
|  CadnaA Road | Industry Road | all implemented standards and guidelines included | Light efficient tool for smaller projects |
|  CadnaA City | Industry Road Railway | | or Professional powerful tool for larger projects |
|  CadnaA City & Airport | Industry Road Railway Aircraft | Industry, road, railway: all included Aircraft: one included | Professional powerful tool for larger projects |
|  CadnaA Basic |  Noise types Industry Road Railway |  Standards & guidelines one standard or guideline included per noise type | |
|  CadnaA CALC |  for calculation only (no modelling, postprocessing etc.), outsource calculations to physical or virtual machines  | | |

1.2 Detailed overview

| Product group | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | CadnaA CALC | |
|--|-----------------------|-------------------|-------------------|---------------------------------|---------------------------------|---------------------------------|---|---------------------------------|--------------------------------------|--------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City & Airport Professional | | CadnaA CALC PL | CadnaA CALC CL |
| Noise types : | | | | | | | | | | |
| Industrial noise | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑* | ☑* |
| Road noise | × | ☑ | ☑ | × | ☑ | ☑ | ☑ | ☑ | ☑* | ☑* |
| Railway noise | × | × | ☑ | × | × | ☑ | ☑ | ☑ | ☑* | ☑* |
| Aircraft noise | × | × | × | × | × | × | ☑ | × | ☑* | ☑* |
| | | | | | | | | | *calculation only, no modelling etc. | *calculation only, no modelling etc. |
| Number of sources: | | | | | | | | | | |
| Point sources | 100 | 100 | 100 | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. |
| Other source object types, each | 60 | 60 | 60 | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. | 16 Mio. |
| Calculation standards and guidelines included | All | All | All | All | All | All | All: industry, road, railway One: aircraft | One per noise type | All | All |
| Number of obstacles | | | | | | | | | | |
| Buildings | 2000 | 2000 | 2000 | 2000* | 2000* | 2000* | 2000* | 2000* | 16 Mio. | 16 Mio. |
| Barriers | 2000 | 2000 | 2000 | 2000* *16 Mio. with Option L | 2000* *16 Mio. with Option L | 2000* *16 Mio. with Option L | 2000* *16 Mio. with Option L | 2000* *16 Mio. with Option L | 16 Mio. | 16 Mio. |
| Multithreading | | | | | | | | | | |
| Number of logical cores (threads) | 16 | 16 | 16 | 16* *64 with Option PRO | 16* *64 with Option PRO | 16* *64 with Option PRO | 16* *64 with Option PRO | 16* *64 with Option PRO | 64 | 64 |
| Available licensing types: | | | | | | | | | | |
| Single-user licensing | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | × | × |
| Server licensing | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | × |
| Cloud licensing* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | × | ☑ |
| *in case of purchased software, software maintenance mandatory | | | | | | | | | | |
| Available for: | | | | | | | | | | |
| Subscription | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ |
| Purchase | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | × |
| Options availability to further increase functionality | some | some | some | most | most | most | all | most | none | none |

- ☑ included/available
- ☐ available with additional costs
- ×

2 CadnaA options overview

BMP (bitmap and other interfaces)

- ✓ Bitmap handling (more than 40 different file formats).
- ✓ Google Maps interface.
- ✓ Connection with Web Mapping Services (WMS).
- ✓ Import and visualization of 3D symbols in the 3D special view.
- ✓ Export of results to Google Earth (.kmz).

PRO (extended multithreading and additional tools which enhance efficiency)

- ✓ Multithreading up to 64 cores.
- ✓ Additional tools to speed up and facilitate your work like e.g: Migration assistant, Transfer attributes, Find errors in DTM, Thin out height points, Automatic closing of polygon points.

not available for CadnaA Light products

BPL (back-tracing of sound power levels)

- ✓ Manual or automatic optimization of noise emission.
- ✓ Calibration of area sources of which the sound power level is unknown.
- ✓ Automatic fixation of noise quota for urban development projects.

X (Extended analysis and postprocessing features)

- ✓ Extended features for analysis and postprocessing, especially valuable for e.g. noise mapping: Object-scan, population density estimation, monetary evaluation, conflict maps.
- ✓ LUA scripting language for automation of CadnaA tasks and many more user-definable functionalities.
- ✓ Additional features: automatic closing of polygons, thin out height points.

not available for CadnaA Light products

SET (Sound Emission & Transmission)

- ✓ Calculation of frequency spectra of radiated sound power determined from the technical parameters of a sound source.
- ✓ Modeling of complex devices with multiple sound sources and radiating areas, reproducing their inner sound flux and transmission to connected parts.
- ✓ User-defined sound source models.

L (large scale projects)

- ✓ Calculation with unlimited number of screening objects (16 Mio. Buildings, 16 Mio. screens) for large scale projects.

not available for CadnaA Light products

APL (air pollution)

- ✓ Calculation of air pollutants distribution for more than 50 pollutants.
- ✓ Exposure maps for air pollutants for industrial and road sources.
- ✓ Import of annual or multi-annual statistics of meteorological parameters.
- ✓ Standardized emission factors for road traffic.

RAD (radar tracks)

- ✓ Aircraft noise calculation based on radar data.
- ✓ RADAR Import formats: Fanomos, Stanly, Topsonic, user-defined.
- ✓ Time period selection.
- ✓ Group classification according to ICAO-code.
- ✓ Automatic filtering of RADAR tracks.

requires CadnaA City & Airport Professional

3 Implemented standards and guidelines

| Industrial noise | Road noise | Railway noise | Aircraft noise |
|---|---|--|---|
| ISO 9613-2 (1996) ISO 9613-2 (2024) CONCAWE VDI 2714, VDI 2720 DIN 18005 (1987) ÖAL Richtlinie Nr. 28 (1987) BS 5228 Nordic General Prediction Method (1996) Nord 2000 Ljud från vindkraftverk Harmonoise, P2P model NMPB08-Industry HJ2.4 (2009 & 2021) Schall 03 (2014) CNOSSOS 2015/996 EU CNOSSOS 2021/1226 EU | NMPB-Routes-96 RLS-90, VBUS RLS-19 DIN 18005 (1987) RVS 04.02.11 (2006) STL 86 SonRoad SonRoad 18 CRTN (1998) TemaNord 1996:525 Czech Method (1996) NMPB-Routes-08 TNM 2.5 (2004) HJ2.4 (2009 & 2021) CNOSSOS 2015/996 ¹ CNOSSOS 2021/1226 EU CNOSSOS 2021/1226 DE (BUB 2021) CNOSSOS 2021/1226 AT (RVS 2021) | RMR, SRM II Schall 03 (1990), VBUSch Schall03 2014 DIN 18005 (1987) ONR 305011 Semibel NMPB-Fer CRN TemaNord 1996:524 FTA/FRA (2018) NMPB08-Fer HJ2.4 (2021) CNOSSOS 2015/996 ¹ CNOSSOS 2021/1226 EU CNOSSOS 2021/1226 DE (BUB 2021) CNOSSOS 2021/1226 AT (RVE 2022) CNOSSOS 2021/1226 BE (Infrabel 2022) CNOSSOS 2021/1226 FR (SCNF 2022) | DIN 45684 AzB 2008 / ICAN ÖAL 24 ECAC Doc. 29 2 nd Edition 1997 ECAC Doc. 29 3 rd Edition ECAC Doc. 29 4 th Edition Integrated Noise Model (INM 7.0d) AzB 1975, AzB-MIL, LAI-Landeplatzlinie VBUF CNOSSOS 2015/996 EU & DE (BUF 2018) CNOSSOS 2021/1226 EU & DE (BUF 2021) DIN 45687 |
| | ¹ containing: CNOSSOS 2015/996 EU CNOSSOS 2015/996 DE (BUB 2018) CNOSSOS 2015/996 AT (RVS 2019) | ¹ containing: CNOSSOS 2015/996 EU CNOSSOS 2015/996 DE (BUB 2018) CNOSSOS 2015/996 AT (RVE 2019) CNOSSOS 2015/996 FR (SCNF 2021) | |

4 Technical specifications of CadnaA Light products, CadnaA Professional products, CadnaA Basic and CadnaA options

4.1 Calculation technology

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-------------------------------------|---|-------------------------------------|-----|-----|-----|-------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| 64-Bit program version | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Multi-threaded calculation using up to 16 logical cores (threads)* *if more than 16 logical cores are available, the first 16 logical cores will be used. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Multi-threaded calculation with up to 64 logical cores (threads) | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | | | | | |
| Ray Tracing calculation method | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Angle Scanning calculation method | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Projection at line and area sources | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Maximum order of reflection | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | | | | | | | | |
| Batch calculation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| PCSP distributed calculation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Maximum 2000 buildings and 2000 barriers per project | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Unlimited number (16 Mio.) of buildings and barriers per project | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input checked="" type="checkbox"/> | | | | |
| DYNMAP Update of calculated noise maps based on measurements | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Air Pollution AUSTAL2000 Calculation Method | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | <input checked="" type="checkbox"/> |

included (in CadnaA product or option)

needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.2 Source object types

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-----|---|---|-------------------------------------|-------------------------------------|-----|-------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Point source Line source Area source (horizontal) Vertical area source Tennis point of serve | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Optimizable area source | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | <input checked="" type="checkbox"/> | | | |
| Sound power level input modes: Direct PWL, PWL based on interior sources, PWL based on sound pressure level | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Sound power level based on moving machinery for line and area industrial sources | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Sound power level estimation based on transmission loss and interior level | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Estimation of sound power from the technical parameters of a sound source (32 modules) Fans and Blades (5) Diesel Motors (4) Electric Motors (6) Pumps (13) Trafo (4) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Extended database of source modules based on technical parameters (306 source modules included) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | | |
| User-defined sound source modules based on technical parameters | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | | |
| Calculation of sound power level of complex interconnected source systems, accounting for Radiation and Transmission | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | | |
| Road source Traffic light-controlled road crossing Parking lot | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Railway source | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Airport Air route source | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| RADAR track | | | | | | | <input type="checkbox"/> | | | | | | | | | <input checked="" type="checkbox"/> |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.3 Further object types

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----|---|---|-----|-----|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Receiver | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Building evaluation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Barrier Barrier with cantilever Barrier with curved cantilever (3D) Floating barrier Roof edge (3D) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Building | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Embankment | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Bridge plate | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| 3D-Reflector | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Area of ground absorption | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Foliage area | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Built—up area | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Cylinder | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Contour line | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Line of fault | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Height point | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Area of designated land use | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Bitmap object (for high resolution images) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Section | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Text box | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Level box | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Auxiliary polygon | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Symbol | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| 3D Symbol | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |

included (in CadnaA product or option)

needed as pre-requisite (only one is needed in case of multiple entries in a row)

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-----|---|---|-----|-----|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Station | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation area (horizontal) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Vertical calculation area | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| CadnaB building Sound source and obstacle object for the interoperability with CadnaB (requires CadnaB as additional separate software) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.4 Calculation results and postprocessing

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-----|---|---|-----|-----|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Calculation at receiver points | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Partial levels at receiver points | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation protocol for receiver points | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Building noise maps | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Horizontal grid calculations | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Vertical grid calculations | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Unlimited number of grid receivers | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation of up to 4 evaluation parameters | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Arithmetic of grids Up to 7 grid collections (4 eval. parameters and terrain) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Noise evaluation parameters <small>L_{day} L_{evening} L_{night} L_{in} L_o L_{en} L_{son} L₁₀ (CRTN)</small> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation of the loudest hour level L _{1hMax} for day, evening and night | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation of L _{max} for industrial sources | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| User defined noise evaluation parameters | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Partial noise-type related evaluation parameters e.g. Industry Noise Map in projects with other types of noise sources (such as roads) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Multiple source effect Calculation according to VDI3722, Miedema and EU Directive 2020/367 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Calculation of the decisive external noise level according to DIN 4109 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Frequency maps if individual octaves or 1/3 octaves | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Uncertainty maps (combined uncertainty for source and propagation) <small>SigmaD SigmaE SigmaN</small> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Maps to display digital elevation model (color-coding of height) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Automatic optimization of noise barriers | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Pass-by level calculation time-based sound pressure levels based on passing sound sources like cars or trains. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Pass-by level based auralization | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|--------------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|---------|-----|-------------------------------------|---|-----|-----|-----|-------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Aircraft related noise evaluation parameters DNL CNEL LAEQ LAEQd LAEQn SEL LAMAX EPNL PNLTM *relevant with INM/ECAC 3-/CNOSSOS Standards | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Calculation of wake-up reactions during night period | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Number of Aircraft Events Above Threshold NATd NATe NATn SigmaNATd SigmaNATe SigmaNATn | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Evaluation of maximum Level statistics FlgStatD FlgStatE FlgStatN SigFlgStatD SigFlgStatE SigFlgStatN | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Automatic generation of noise protection zones | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Automatic generation of conflict maps | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Estimation of the population density | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Monetary evaluation according to BUWAL method Evaluation of noise reduction measures with regards to the reduction in value of rented flats caused by high noise levels | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Noise impact evaluation by single number ratings | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Object Scan Statistical Evaluation of object attributes or calculated values by using expressions. Includes predefined settings for EU-Directives 2015/996, 2020/367 and 2021/1226 as well as BEB 2021 | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| 3D animated noise maps Noise map video captured from the 3D view for moving sources | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Air pollution calculation for different components: Benzene, F, NH3, NO, NO2, NOx, SO2, Tetrachlorethylen, As, Cd, Hg, Ni, Pb, Tl, PM10 (fine particles), and odor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | <input checked="" type="checkbox"/> |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.5 Import formats

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----|---|---|-----|-----|-------------------------------------|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| AutoCAD (.dxf) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Trimble SketchUp | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| GIS formats ESRI Shape files (.shp) Atlas GIS (.bna) GYpSiNOISE MapInfo (.mif) AED-Sicad | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| ASCII formats ASCII-Objects ASCII-Grid DTM (.asc) ASCII-Spectra Building Height Points Winput-DGM Numbers of Trains (.txt) Height points (.xyz) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| XML formats Open Street Map (.osm) GML CityGML NMPB08-Trains (.xml) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Other formats EDBS T-Mobil Slip SOSI NTF STRATIS (.cst) Noise Mapping England (.nme) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| QSI Interchange format according to DIN 45687 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Other CAD formats AutoCAD (.dwg) Microstation (.dgn) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Google Maps interface | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Import from Web Mapping Services (WMS) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| GeoTiff DTM (Digital elevation model from .tif/.geotif) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Bitmap formats CALs Raster, DCX, DWF, ECW, IMG, GIF, ICA, JFIF, JPEG, JTIF, LEAD CMP, PCT, MAC, MSP, MPT, OS/2 Bitmap, PCD, PCX, PSD, PNG, PostScript Raster, RAS, TIFF, TIFF CCITT, LZW, TARGA, BMP, WMF), WinFax Group 3, WinFax Group 4, WPG WordPerfect raster files | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Raster formats CadnaA Grids (.cnr) ESRI-ASCII Grids (.asc, .hdr) ASCII-Grids (.rst) Lima Grids (.ert) SoundPLAN Grids IMMI Grids (.ird) AUSTAL Grids (.dmna) Miskam Grids (.zwk) NMGF Grids (.grd) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Aircraft INM import formats ANP Database INM Study INM Operations <i>*Only with INM Calculation Standard</i> | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| Import of RADAR tracks FANOMOS STANLY Topsonic User-Defined | | | | | | | <input type="checkbox"/> | | | | | | | | <input checked="" type="checkbox"/> | |
| Import from MS Excel files | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |

included (in CadnaA product or option)

needed as pre-requisite (only one is needed in case of multiple entries in a row)

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-----|---|---|-----|-----|-----|-------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| ODBC— interface Import of external databases of object's attributes and libraries (I.e. Sound Power Levels, Absorptions, Noise Reduction Indices, directivities and measurements from sound analyzers. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Import of directivities of loudspeakers in CLF format (*.CF1, *.CF2 and *.XHN) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Import of annual or multi-annual statistics of meteorological parameters (.akt, .akterm) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | <input checked="" type="checkbox"/> |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.6 Modelling tools and project organization

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-------------------------------------|-------------------------------------|---|-----|-----|-----|-------------------------------------|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Actions applied to single objects Edit, Delete, Import here, Show on Google Maps, Zoom to Object, Copy Attributes, Duplicate, Force Rectangle, Orthogonalize, Convert to, Transformation, Generate Label, Parallel Object, Break Lines, Break Areas, Simplify Geo, Spline, Modify Order of Points, Change ObjectTree assignment, Break into Pieces, Connect Lines, Fit DTM to Object, Fit Object to DTM, Hyperlink, Generate Station, Edit Facades, Generate Radiating Building, Set Length, Generate Rails, Cross Section, Generate Floors, Snap Object to Façade | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Actions applied to multiple objects (“modify objects” command) Delete, Modify Attributes, Copy Attributes, Duplicate, Force Rectangle, Orthogonalize, Object Snap, Modify order of Points, Spline, Simplify Geo, Break into Pieces, Connect Lines, Transformation, Convert to, Generate Rails, Generate Station, Generate Building Evaluation, Multiselect, Change ObjectTree assignment, Generate Label, Generate Floors, Parallel Object, Activation, Swap Name/ID, Delete Duplicates, Fit DTM to Object, Fit Object to DTM | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Object Tree Project Organization in hierarchical structure | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Up to 16 variants/scenarios per CadnaA project file | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Assignment of groups to variants (including copy group activation) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| User-defined Global and Local libraries Sound Levels (Sound Power Levels and Sound Pressure Levels), Absorptions, Sound Reduction Indices, Directivities, 2D & 3D Symbols, Diurnal Patterns, Road Surfaces, Road Types and Vehicle Classes, Parking Lot Movements, Train Classes, Color Palettes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Default Library Always includes latest datasets for many of the above-mentioned libraries including e.g. Road and Railway related Datasets for many national implementations of EU Directives 2015/996 and 2021/1226. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Library Manager | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Lua scripting e.g. for task automation | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Additional action for multiple objects (“modify objects” command) Lua command | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | | | |
| Automatic closing of auxiliary polygons | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | |
| Thin out height points | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | |
| Find errors in DTM | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | | | | | |
| Transfer attributes | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | | | | | |
| Migration assistant RLS90->RLS19 data conversion for existing project file when switching calculation standard | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | | | | | |
| Automatic filtering of RADAR—tracks | | | | | | | <input type="checkbox"/> | | | | | | | | | <input checked="" type="checkbox"/> |

included (in CadnaA product or option)

needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.7 Presentation of results and 3D visualization

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------|-----|---|---|-----|-----|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Display of calculated rays in 2D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| 2D Horizontal noise maps Iso dB-Lines, noise contours, Raster Oversampling | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| 2D Vertical noise maps Iso dB-Lines, noise contours, Raster Oversampling | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Building noise maps in 2D view Ribbons, Spheres, Octagons, Level boxes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Pass-by level graph | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Pass-by level based auralization | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| 2D animated noise maps for line moving sources | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| PlotDesigner | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| User defined table of results | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Open-GL based 3D visualization | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Selection and editing of objects in the 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Recalculation of DTM and objects directly in 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Free movement and save up to 10 predefined views in 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Appearance of objects in 3D depending on attributes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of calculated rays in the 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of 3D directivities in the 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of horizontal noise maps in 3D view Projected or at the real height | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of vertical noise maps in 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Noise map of buildings Color map, Spheres, Octagons, Level boxes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of text labels in 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of ground maps in 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----|---|---|-----|-----|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| Import and visualization of 3D symbols (* .obj format) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Animation of 3D symbols (rotation) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Stereoscopic 3D display with passive 3D glasses *Compatible 3D TV required | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Interactive scene video recording (.avi) from 3D view | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Display of light sources (street lights) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Import of skybox ambient images | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Import of facade images to the buildings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Projection of background images i.e. Google Maps or aerial imagery | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

4.8 Export formats

| Feature | CadnaA Light | | | CadnaA Professional | | | | CadnaA Basic | Options | | | | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----|---|---|-----|-------------------------------------|-----|-----|
| | CadnaA Industry Light | CadnaA Road Light | CadnaA City Light | CadnaA Industry Professional | CadnaA Road Professional | CadnaA City Professional | CadnaA City&Airport Professional | | BMP | PRO | X | L | BPL | SET | RAD | APL |
| AutoCAD— DXF | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| GIS formats ESRI /ArcInfo (.shp) ArcView Grid (.asc, .hdr) GYpSiNOISE | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| ASCII formats Text Files (.txt) Building Height Points Numbers of Trains (.txt) Rich Text Format (.rtf) Compact Protocol | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Export of full reports to Ms Office Ms Word (.docx) Ms Excel (.xlsx) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| QSI Interchange Format According to DIN 45687 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Google SketchUp Materials (.skm) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| Bitmap Files (.bmp) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Google Earth (.kml) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| Web Bitmaps PNG files at different magnification levels | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | |
| AzB related export formats AzB-QSI, AzB-DES, AzB-XML, AzB-Lmax, AzB-Segment, AzB-Zones | | | | | | | <input checked="" type="checkbox"/> | | | | | | | | | |
| SET-T Graph (.gv) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | | |
| Grid formats CadnaA Grids (.cnr) ASCII-Grids (.rst) LimA Grids (.ert) NMGF Grids (.grd) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |
| QSI Statistical Analysis report DIN 45687 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | |

- included (in CadnaA product or option)
- needed as pre-requisite (only one is needed in case of multiple entries in a row)

5 Technical specification of CadnaA CALC products

The special CadnaA CALC products (CadnaA CALC PL and CadnaA CALC CL) allow to outsource the calculation to external machines. With CadnaA CALC products, CadnaA can be executed exclusively in the in the so-called “Batch-Mode” which comes with a limited set of features exclusively for calculations. With CadnaA CALC products it is possible to:

- automatically open CadnaA files which have previously been created with another CadnaA product (CadnaA Light product, CadnaA Professional product or CadnaA Basic) and stored in a definable working directory,
- Automatically perform calculations of the opened files,
- Automatically save the files after the calculation.

The following calculations can be performed with CadnaA CALC products:

- Calculation at receiver points (for the current variant or all variants)
- Calculation at grid receiver points (horizontal and vertical, for the current variant or all variants)

Which of the above listed calculations are to be executed is defined during the preparation of the CadnaA file (using another CadnaA product which is not part of the CadnaA CALC product group).

CadnaA CALC products can calculate any noise type (industry noise, road noise, railway noise, aircraft noise) with any calculation standard or guideline for any noise type. Which calculation standard or guideline is used for the calculation is defined during the preparation of the CadnaA file (using another CadnaA product which is not part of the CadnaA CALC product group) and can not be changed during the use of the CadnaA CALC product.

The features of Option L are implicitly included in CadnaA CALC products, therefore projects with up to 16 Mio. buildings and 16 Mio. barriers can be calculated.

Creating or editing projects, im- or exporting data, post-processing etc. are not possible with CadnaA CALC products.

With CadnaA CALC PL, CadnaA can be opened in Batch-Mode at five machines the same time to perform calculations as described above.

With CadnaA CALC CL, CadnaA can be opened in Batch-Mode at one machine the same time to perform calculations as described above. CadnaA CL CALC can also be applied on virtual machines of various commercial cloud providers.

Due to application of updates and patches to the DataKustik Cloud License Server (see chapter 7.1), CadnaA CALC CL may have to be manually restarted by the customer once a month.

6 System requirements

CadnaA can be installed on any system which fulfils the following requirements:

- Multi-core processor with x86-64 architecture from Intel (Core i series, 6th generation, „Skylake“ architecture or newer) or from AMD (Ryzen series, starting from the 1st generation, „Zen“ architecture or newer) with at least 4 cores, instruction set extensions SSE 4.2 and AVX as well as 64-bit extensions (Intel 64 or AMD64). ARM-based processors (e.g M1/2/3/4 chips from Apple or Snapdragon-SoC) are not supported.
- 8 GB RAM
- OpenGL 3.3 graphics card with minimum 1 GB real graphic memory to use the hardware accelerated 3D-view. Using processor graphics or graphics card with no dedicated graphics memory ("shared memory") may result in display errors. When using CadnaA in Batch-Mode, this requirement does not apply.
- Windows 64-bit operating system
 - Microsoft Windows 10 (Version 22H2)
 - Microsoft Windows 11 (Version 23H2 or newer)

7 Cloud licensing related additional requirements and information

With licensing type cloud licensing, during the use of CadnaA:

- the DataKustik Cloud License Server must always be accessible from the customer location,
- a permanent and uninterrupted internet connection via port 1947 (UDP and TCP) is mandatory.

7.1 DataKustik Cloud License Server availability

DataKustik ensures, that the Cloud License Server is available at least 99% of the time on average over the month. Each first Tuesday of the month at 0:00 UTC updates and patches will be installed on the Cloud License Server which may require restarting the Cloud License Server. Upon restarting the server, it will be temporarily not available and existing connections will be lost.

7.2 Cloud licensing management and company account on DataKustik website

On the DataKustik website, a company account will be created upon ordering the first cloud license. The initial administrator of the company account will be set by DataKustik according to information provided by the customer during the ordering process. After the initial setup of the company account and its initial administrator by DataKustik, the further administration of cloud licensing (e.g. adding further administrators, users, or requesting identities) via the company account is in the control and responsibility of the customer. Additionally, each user of cloud licenses must have a user account on the DataKustik website and install the application "DataKustik Launcher" for setting up cloud licenses. For more details, please see [1].

8 Bibliography

- [1] www.datakustik.com. [Online] 11 2024. <https://www.datakustik.com/e-learning-center/technical-notes-1>. 2303 Software Licensing Types.