Option APL

Cadna A®
State-of-the-art
noise prediction software

Calculation of Air Pollutants

Option APL enables the calculation, assessment and presentation of air pollutant distribution according to the relevant European guidelines. The results obtained can serve as the basis for action planning with regard to air pollution mitigation plans.
Option APL combines the user-friendly interface of CadnaA with the dispersion model AUSTAL2000, which is state-of-the-art air pollution modeling. The implemented Lagrange particle model considers time-dependent emissions from road and industrial sources, variable wind fields and atmospheric stability and takes account of terrain and buildings. Using the CadnaA PCSP technology (Program Controlled Segmented Processing) for full-automatic tiling, project distribution and processing on a network, the dispersion maps e.g. for traffic induced pollutants, can be calculated for a project of any size.

NO2-distribution along a main road taking into account the influence of buildings

Fields of Application

- Calculation of air pollutant emission and immission in cities and urban areas
- Prognosis of air pollutant emission and immission to assess mitigation plans for road traffic
- Assessment of measures in the context of noise and air quality mitigation plans
- Prognosis of air pollutant emission and immission by industrial sources

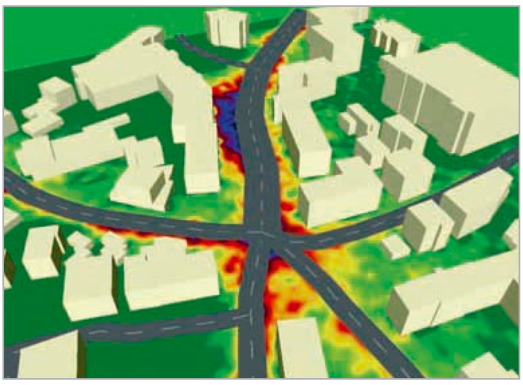
For more information about the leading noise prediction software CadnaA please visit www.datakustik.com

Features

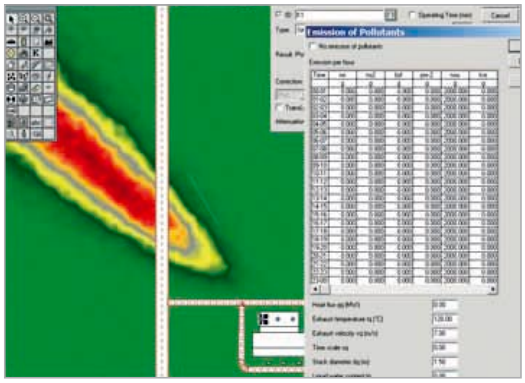
- Maps showing air pollutant distribution for different components (e.g. PM_{10} fine particles, NO_2, NO_X, SO_2, benzene)
- Meteorological time series with time dependant emission of point, line and area sources
- Standardized emission factors for road traffic
- Calculation of dispersion of pollutants with high resolution, including the buildings and the terrain
- Grid arithmetic: superimposition of immission maps from several types of emission sources
- Calculation of plant-specific immission impact in the vicinity including the effect of thermal boost
- Completely implemented into the CadnaA user interface

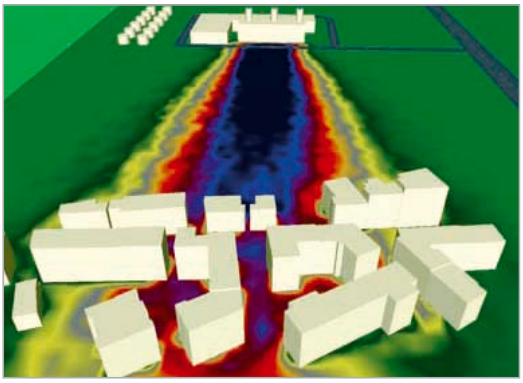
Examples

Air Pollutant Impact from Roads



Air Pollutant Impact from Industrial Sources





from left to right:

PCSP technology: restricting the calculation of air pollutant distribution to the rectangular sections along the main roads

Traffic induced impact by fine particulates (PM_{10}) at an intersection in a city centre with west wind

Input dialog for emission data: diurnal patterns for several air pollutants and source specific emission parameters

NO_x-distribution at an agglomeration of buildings resulting from stack emissions by a power plant (point sources)

About CadnaA

CadnaA (Computer Aided Noise Abatement) is the software for the calculation and presentation, assessment and prediction of noise exposure and air pollutant impact. Whether your objective is to study the noise immission of an industrial plant, of a mart including a parking lot, of a new road or railway scheme, or even of entire towns and urbanized areas: CadnaA is designed to handle all these tasks.

We look forward to being in touch with you. For further information or any questions please do not hesitate to contact us or one of our distribution partners.

Demo version available free of charge! Visit www.datakustik.com

DataKustik

DataKustik GmbH
Gewerbering 5
86926 Greifenberg
Germany

Phone: +49 8192 93308 0
info@datakustik.com
www.datakustik.com

2-OR70

Design: www.projektil.com