

## System architecture

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envVision is strictly build up in a modular way so that its use is not limited to the noise area. envVision has to be seen as an integral solution concept for an environmental data infrastructure realized on the base of world leading technology of Oracle and ESRI. This architecture guarantees the standardisation and integrated execution of data import and export, data processing, calculation of specific data, planning, analyses and reporting. Adapted interfaces are available for data transfer and startup of external applications for simulating environmental processes such as noise and air pollutant propagation. The whole functionality of the ESRI product family is available.

## Highlights

### Import

- ✓ Any ESRI compatible geo and meta data, including 3D and routing information
- ✓ Incremental updates

### Manual data capture

- ✓ Meta and geo data capturing via interactive graphical interfaces

### Data correction and completion

- ✓ Data integrity through checking of topologic and thematic aspects

### Homogenisation

- ✓ Error free combination of geo and meta data of different sources
- ✓ Area-wide homogeneous base data

### Calculation

- ✓ Interfaces to external applications (e.g. for noise propagation calculation software)

### Planning

- ✓ Comparison of different independent variants
- ✓ Identifying of optimum planning concept
- ✓ Cost comparison

### Versioning

- ✓ Working in scenarios
- ✓ Creating and merging arbitrary scenarios
- ✓ Conflict management (after long time transactions)

### Interfaces

- ✓ Automated export of relevant data and re-import of the results (download / upload)

### Reporting

- ✓ Analyses related to persons, areas and buildings

- ✓ Chronological development of noise impact
- ✓ Cost / benefit analysis
- ✓ Noise raster, iso lines, iso areas

### User administration

- ✓ Integrated user administration
- ✓ Flexible allocation of read and write rights for geo and specific data

### Data administration

- ✓ Storing of administrative, geo and specific data in the central Oracle database
- ✓ Data integrity is guaranteed

## Technical data

### Geographic information system

- ✓ ESRI's ArcGIS® Server

### System requirements server/client

- ✓ Same as ArcGIS®

### Database systems

- ✓ ORACLE
- ✓ Others on request

### Base software for data administration/ versioning

- ✓ envVision

### Connection of specific applications

- ✓ Standard interface QSI
- ✓ IMMI (Wölfel)

### Web-GIS

- ✓ envVision@ with integration in communal Web-GIS from SYNERGIS (WebOffice)

### WEGA-Geo-Server

### Download/Upload

- ✓ novaFACTORY



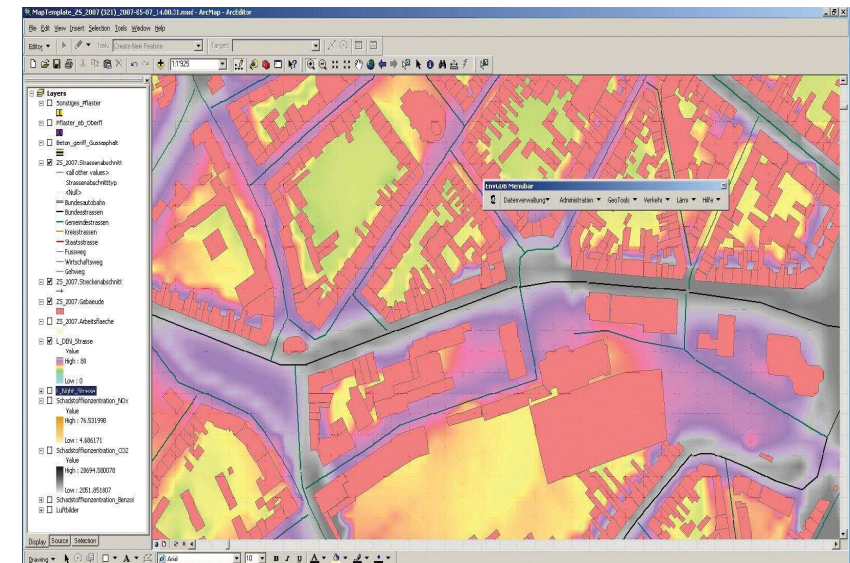
[www.moss.de](http://www.moss.de)

# envVision

## Environmental management

### An innovative IT solution for your environmental tasks

envVision is the only GIS based solution available for interdisciplinary environmental analyses and planning. On the one hand envVision is predestinated for the administration of huge amounts of data and manages your data storage and provision (data management). On the other hand envVision is the IT solution to support your planning processes (planning management).



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## envVision

The impulse for developing **envVision** was the adoption of the EU environmental noise directive (2002/49/EC). This directive launches a new quality in terms of noise abatement: away from occasionally towards area-wide and periodically recurring analyses and planning processes.

This change creates completely new requirements for data administration and storage and computer aided process support especially for noise abatement but also for environmental protection in general.

The **envVision** approach differs from the „classic“ model of environmental analyses:

Capturing / providing of basic data for the actually needed task

- ✓ Simulation, propagation calculation
- ✓ Result display and presentation

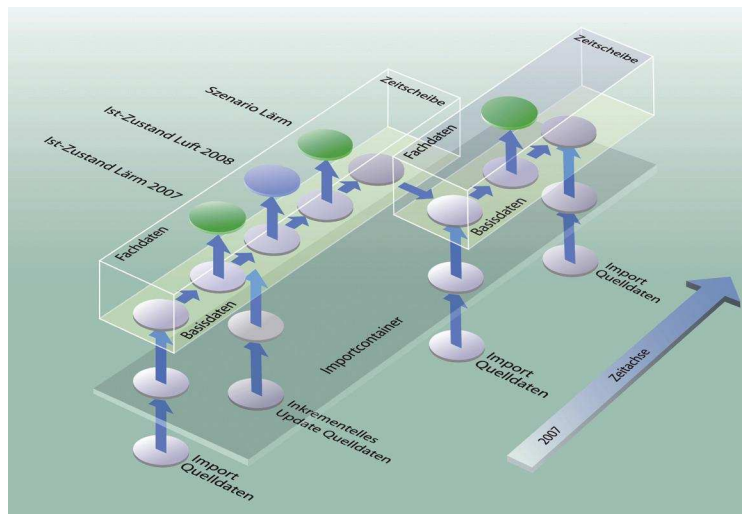
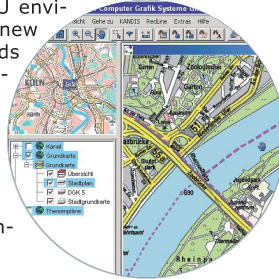
And all this using specific software.

**envVision** takes care of data management and can start the simulation and calculation of processes in the environment (e.g. calculation of noise and air pollutant propagation, flooding or ground water modelling and also traffic planning simulations), so that it can be conducted by the specified software. Result data then can be imported and displayed by **envVision**.

**envVision** stands for security in administering huge amounts of data, sophisticated planning management, steht für Sicherheit bei der Verwaltung riesiger Datenmengen, ausgereiftes Planungsmanagement, traceability of processes, conformity with geo data infrastructure and investment security – and thereby for sustainability in solving your environmental tasks.

**envVision** is the GIS based solution for your environmental management, **envVision Service NOISE** is the specific module for supporting the implementation of the EU environmental noise directive.

Data captured once can be reused, i.e. for air pollutant propagation with **envVision Service AIR**.



Source: LCC Consulting AG

## envVision

### Data management

GIS know-how and professional competence are connected: **envVision** stores and provides the data describing our environment: the geo base data and meta data needed as well as the resulting data (noise raster, house evaluations). Additionally the highly specialized calculation software (e.g. for noise propagation calculation) is started through **envVision**. Effective environmental management needs interaction and uses all synergy effects resulting from the aggregation of different spheres of competence. The usage of **envVision** means for you:

- administration of huge amounts of data (up to terabytes)
- multiple usability of data captured once for recurring examinations as well as for other tasks (e.g. air pollutant propagation)
- traceability of processes
- legal security and transparency through fixation of base and thematic data
- administration of time serieses, planning scenarios, etc.
- data provision for different requirements: for handling new topics, for external plannings, for reports (e.g. reporting to the EU), for information through the web

### Planning management

Environmental planning nowadays is mainly done via specialized software and can not be thought of without the use of geo base data, graphical presentation and analysis functionality. Why is there a need for a planning management system on top of that ?

The requirements (e.g. of the EU environmental noise directive) reclaim area-wide assessments that can not be handled with the „tile technology“ of the specialized software any more. Often planning is performed locally by different authorities or there are contracts with planning offices. Data has to be supplied and results are coming back. Plannings should consider a multitude of future constraints.

All this leads to big, parallel and at the start completely unsorted and incoherent data sets.

**envVision** supports your planning process with:

- ordered administration and parallel handling of arbitrary planning scenarios: staged in time, if needed with local accountability and consideration of possible evolution trends
- storing of homogeneous data sets of base and technically specific data (e.g. noise rasters, house evaluations) for every variant
- downloads and uploads (for external contractors)
- continuous use of data created in plannings
- simulation of impacts of the planning actions, cost / benefit analysis
- scenario comparison, assessment, compiling of preferred variants and much more

