

PRODUCT SPECIFICATION**1****Overview**

The AL.VIS/Objects application is a network-based, multi-user information system for recording, storing and searching for quality-assured data and information about objects. AL.VIS/Objects can be used to define, structure and manage cadastres with custom object properties. The relevant object types can be defined freely by the user.

The individual components make it possible to:

- Record, read, and update object data and information
- Define and structure the object types used and their specific characteristics
- Carry out form-based searches for master data of stored objects
- Manage individual user permissions
- Export object data to Excel
- Record and edit object data and their characteristics offline using AL.VIS/Objects-Container add-on

The design is based on reliable technology, delivering high-performance, and stable applications. This includes the use of Microsoft .NET technology, an efficient database system and the IIS web server. Moreover the user interface is based on Ext.NET and Sencha Ext JS ensuring a modern interface with extensive functions.

AL.VIS/Objects can be used in conjunction with other AL.VIS-software suite products, e.g. with measured value network management based on AL.VIS/Timeseries or images management based on AL.VIS/Images.

Database Technology

AL.VIS/Objects can be used with the following database systems:

- ORACLE 11g
- PostgreSQL 9.3 / PostGIS 2.1
- Microsoft SQLServer

The used database model allows simple and flexible extension of the managed data. The managed objects and organisations can be assigned with metadata and structured hierarchically according to individual specifications.

Coordinate specifications, e.g. for object locations, are stored as special geometry objects (e.g. SDO in ORACLE). This allows the user to analyse the spatial relationships using SQL statements.

Individual coordinate transformations can be made by submitting the appropriate transformation instructions in the database.

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Functions Overview

Function of AL.VIS/Objects	AL.VIS/Objects	AL.VIS/Objects-Container
Management of object type catalogue	✓	
Creation of object properties	✓	
Construction of an object hierarchy	✓	
Editing contents	✓	
Use of different coordinate systems (GK, UTM, WGS 84)	✓	
Object data search	✓	
Data export (Excel format)	✓	
Comment function (management of user comments for object entries)	✓	
Use of Web-GIS to search for objects and map display	✓	
Management of mine plans	✓	
Report function based on Jasper Reports	✓	
Management of specific data containers for offline editing (export/import, plausibility tests)	✓	
Offline editor for objects and their characteristics		✓
Plausibility testing of data recorded in containers		✓
Loading of container data in into the database	✓	

AL.VIS / Objects

Administration

- Creation of new object types
- Definition of object hierarchies
- Management of object properties
- Management of the organisations
- User permission management (writing, reading, editing)
- Locate objects using Web-GIS

Searching

- Web-based user interface to search for objects and their properties using different filters
- Tree view for managed objects based on an individually defined organisational structure
- Access to the submenus: administration, chart, help and reports
- Detailed view of objects for all object types
- Special views for specific object types
- List view
- Easy browsing through search results

Data Editor

- Easy switching between detailed view and edit mode
- Creation of new objects
- Data editor for updating object properties
- Use of reference tables
- Format validation of records
- Adding information about object monitoring, inspections, and activities
- Assigning of geometries to objects
- Creation of links to documents

Data Export

- Export of master data for the selected objects to Excel
- Export of properties pivot tables to Excel

Web GIS Integration

- Display of object locations in the map viewer provided by the Web-GIS
- Map-based object selection for subsequent use in AL.VIS/Objects

Reminder (“My Objects”)

- Storage and management of personal object collections
- Display of individualised objects in hierarchy tree

Interfaces

- Interface to AL.VIS/Timeseries for linking a time series with objects (e.g. dam)
- Interface to AL.VIS/Images for linking image documents with objects
- Configurable database-based application interfaces
- Cardo interfaces support (software product from IDU mbH Zittau for constructing a geo data infrastructure (GDI))

Reports

- Creation of on-the-fly reports
- Integration of Jasper Reports (Open Source Version) for generating reports

AL.VIS / Objects-Container

AL.VIS/Objects-Container includes objects, their structure, and all properties from the AL.VIS-Database, in order to edit data offline.

The container enables to create new objects, edit object data, and also store documents in a defined structure.

Technology and System Requirements

- Microsoft .NET Framework 4.5.1
- Ext.NET-based web interfaces for AL.VIS/Objects
- IIS web server
- Support of current browsers
- Data container based on C#, client programme
- Database system for managing data – Oracle 11g, PostgreSQL/PostGIS or Microsoft SQLServer