

# COBRAMAN



Manager Coordinating Brownfield  
Redevelopment Activities

CENTRAL EUROPE Project 1CE014P4 COBRAMAN

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## MATRIX

# COBRAMAN KNOWLEDGE DATABASE

**WP No. 3**  
**Output No. 3.2.1**

Prepared by:  
Author/s Danel Roman, Neustupa Zdeněk, Stalmachová Barbara  
Institution VŠB – Technical University of Ostrava  
PP No. 5

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# COBRAMAN KNOWLEDGE DATABASE DESCRIPTION

Section: WP3

The core output of WP3 from Application Form (AP) is hardware and software for database of Brownfields methods, tools, case studies, solutions etc. (environmental, construction, economical...). This should be support for information and knowledge system about Brownfields.

**The knowledge database will be implemented for an expert access and an educational support.**

Key points from Application Form are:

- The knowledge database will be created in whole partnership cooperation (5 countries).
- The use of database is intended EU wide, with possible access even outside Europe.
- The database creation will improve the level of knowledge in Brownfield area EU wide. Its use will help to create sustainable solutions for any Brownfield place.

We have been solving these tasks:

- **Hardware and System Software design**
- **Desing and manage of the database infrastructure**

As hardware platform for a knwoledge database we set-up and configured:

- Application server (DELL)
- Database server (DELL)
- Disc Array

Servers are running with Microsoft Windows Server 2008 operating system both. As database have been choosen Microsoft SQL Server 2008 Standard Edition.

## **Why we used Microsoft solution?**

We have long term experience with implementation and administration of Microsoft SQL Server. There is given an emphasize to a data safety also. According the data balance we could use "database mirror" on-line backup technology to put the data safety on the highest level.

Servers has been go on with running operating system and configured disk array **since August 2009**. Next we finished basic implementation of database server (Microsoft SQL Server) in September.

Nowadays we have complete hardware infrastructure with SQL server running.

## **What is the next step?**

Next step in WP3 is a database desing (matrix) beginning with conceptual model. To develop the conceptual model there is a deep analyze needed. In depend on providing background from co-operating partners we have been working on basic

concept of database structure. We have been started to work on web-based interface to store the data into database also.

The brownfields knowledge database is designed as standard relationship database. Core table is brownfield table, with a lot of additional tables joined by relation, such as projects, external files, location, documentation, status, contamination data, electronic source information etc.

As a result of a Cobraman summit in Most (November 2009) there was done a decision about concept of the database considering multilinguality: the database will be managed in English language only. All national languages based data will be translated into English (responsibility of PP partners). National languages version of the knowledge database are not mentioned at all.

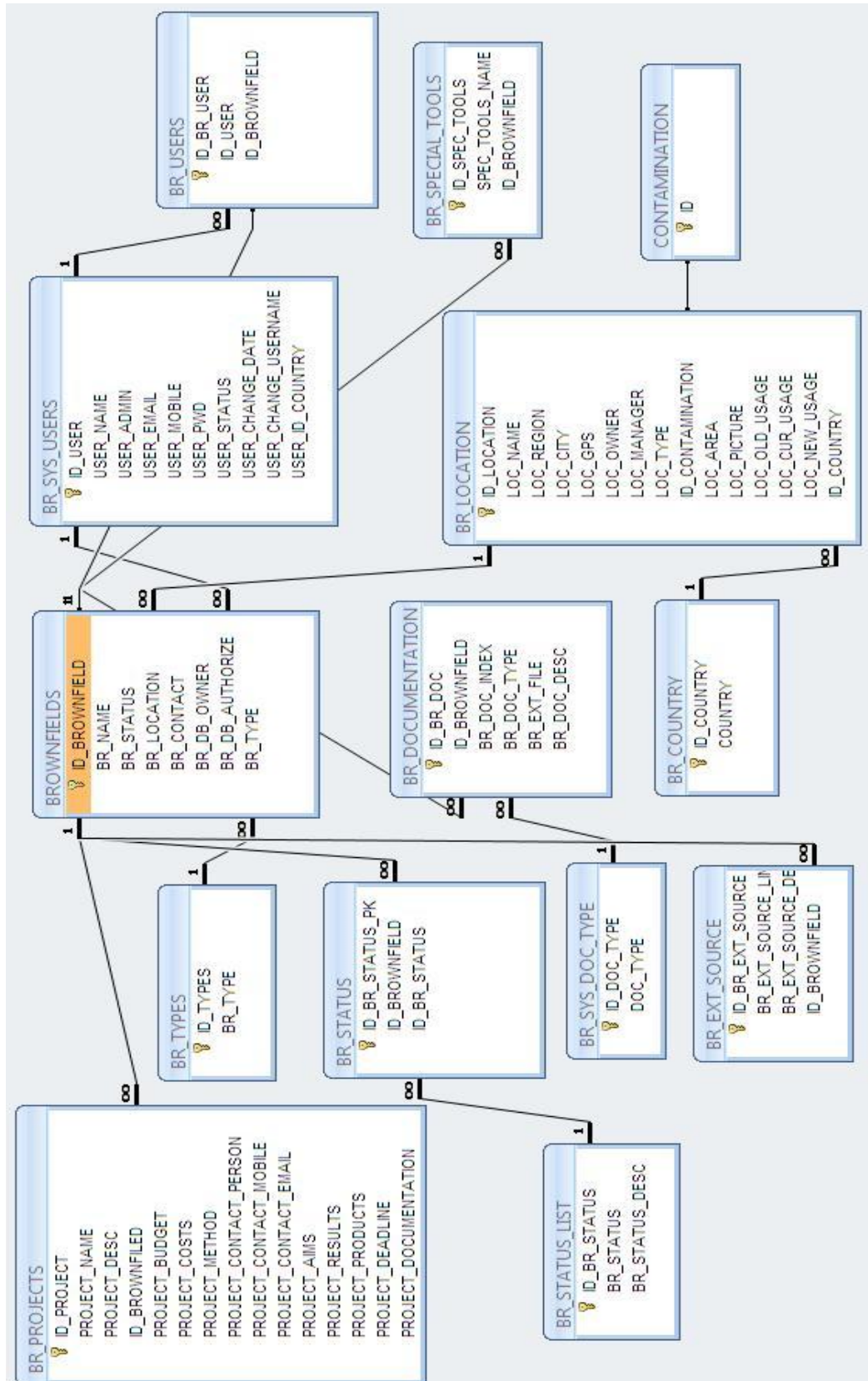
We are also working on system concept of the database such as users and their roles. The key types of users are:

- common user (read/write access),
- owner (is responsible for the authorising of the data)
- administrator (could change owner and system settings considering access rights).

***The data collected by our partners will be stored into database and there must be a solution to authorize these data. Some data could have status for internal use only.***

Another part of system conception is solution of data safety. The goal is using of Microsoft database mirror technology (launched with Microsoft SQL Server 2005 edition). It allows on-line mirror all of the changes in the database (data and metadata both) into second instance of SQL Server.

# COBRAMAN KNOWLEDGE DATABASE MATRIX STRUCTURE



Conceptual scheme of the COBRAMAN database

## Table BROWNFIELD

This is a core table of the project. The table contains list of Brownfields.

Field name	Data Type	Description
ID_BROWNFIELD	Smallint	Primary key (PK)
BR_NAME	Varchar(255)	
BR_STATUS	Smallint	BR_STATUS.ID_BR_STATUS – current status
BR_LOCATION	Smallint	Relation to LOCATION table
BR_CONTACT	Smallint	Relation to CONTACT table
BR_DB_OWNER	Smallint	SYS_USERS.ID_USER – owner of the Brownfield record
BR_DB_AUTHORIZE	Smallint	User who authorized the data

## Table BR\_STATUS\_LIST

The table contains a list of possible statuses of the Brownfield. The Brownfield could to have a combination of several statuses.

Examples of status: Ecological value, historical value, current regeneration process, possible regeneration process, type of reconstructions (for example office centers, greens, production plant, recreation, etc).

Field name	Data Type	Description
ID_BR_STATUS	Smallint	PK
BR_STATUS	Varchar(50)	
BR_STATUS_DESC	Varchar(500)	Description of the status

## Table BR\_STATUS

Decomposition of M:N relation between BROWNFIELD and BR\_STATUS\_LIST tables.

Table is in relation with BR\_STATUS\_LIST and BROWNFIELD.

Field name	Data Type	Description
ID_BR_STATUS_PK	Smallint	PK
ID_BROWNFIELD	Smallint	FK to BROWNFIELD
ID_BR_STATUS	Smallint	FK to BR_STATUS

## Table BR\_TYPES

Type of the Brownfield – industrial sites, military sites, railway land sites, waterfront sites, former city service sites,...

Field name	Data Type	Description
ID_TYPES	Smallint	PK
BR_TYPE	Varchar(80)	

### Table BR\_PROJECTS

Relationship with table BROWNFIELD:  
BROWNFIELD table : PROJECT table = 1:N

Field name	Data Type	Description
ID_PROJECT	Smallint	PK
PROJECT_NAME	Varchar(150)	
PROJECT_DESC	Varchar(1500)	Project description
ID_BROWNFIELD	Smallint	FK to BROWNFIELD
PROJECT_BUDGET	Numeric (18,3)	
PROJECT_COSTS	Numeric (18,3)	
PROJECT_METHOD	Smallint	Link to table of methods
PROJECT_CONTACT_PERSON	Varchar(100)	
PROJECT_CONTACT_MOBILE	Varchar(40)	
PROJECT_CONTACT_EMAIL	Varchar(80)	
PROJECT_AIMS	Varchar(1000)	
PROJECT_RESULTS	Varchar(1000)	
PROJECT_PRODUCTS	Varchar(500)	
PROJECT_DEADLINE	Smalldatetime	
PROJECT_DOCUMENTATION	Varchar(1000)	<i>Link to ext. Table??</i>

### Table BR\_EXT\_SOURCE

The table contains additional information about the Brownfield, accessible in electronic source out of COBRAMAN project (Internet source).

Field name	Data Type	Description
ID_BR_EXT_SOURCE	Smallint	PK
BR_EXT_SOURCE_LINK	Varchar(255)	URL address
BR_EXT_SOURCE_DESC	Varchar(500)	Description of external electronic source
ID_BROWNFIELD	Smallint	FK to Brownfield

### Table BR\_DOCUMENTATION

Information about the Brownfield stored in external files. Maps, documents, AutoCAD or GIS software outputs, photos, videos , etc.  
One row in these table represents one file.

Field name	Data Type	Description
ID_BR_DOC	Smallint	PK
ID_BROWNFIELD	Smallint	FK to BROWNFIELD
BR_DOC_INDEX	Varchar(100)	Index of external file
BR_DOC_TYPE	Tinyint	FK to BR_SYS_DOC_TYPE – system table with description of acceptable file types
BR_EXT_FILE	Varchar(255)	Link to external file
BR_DOC_DESC	Varchar(400)	Additional description of external file

### Table BR\_LOCATION

The table contains data about the Brownfield area and location.  
There is a link to a additional table contains information about the Brownfield contamination.

Field name	Data Type	Description
ID_LOCATION	Smallint	PK
LOC_NAME	Varchar(150)	Name of area
LOC_REGION	Varchar(100)	
LOC_CITY	Varchar(100)	
ID_COUNTRY	Tinyint	FK to BR_COUNTRY
LOC_GPS	Varchar(80)	
LOC_OWNER	Varchar(150)	



LOC_MANAGER	Varchar(80)	
LOC_TYPE	Varchar(100)	
LOC_AREA	Varchar(255)	Description of an area
ID_CONTAMINATION	Smallint	Relation to CONTAMINATION data table ( <b><i>will be add depending on further analyze and discussion</i></b> )
LOC_PICTURE		
LOC_OLD_USAGE	Varchar(255)	Old usage of the Brownfield
LOC_CUR_USAGE	Varchar(255)	Current usage
LOC_NEW_USAGE	Varchar(255)	Future usage

### Table BR\_SPECIAL\_TOOLS

The table based on Data Collection Form from Bydgoszcz.

Field name	Data Type	Description
ID_SPEC_TOOLS	Smallint	PK
SPEC_TOOLS_NAME	Varchar(255)	
ID_BROWNFIELD		FK to Brownfield

## System and working tables

Name	Description
BR_SYS_DOC_TYPE	Acceptable external file types
BR_SYS_USERS	COBRAMAN users (include contact details)
BR_USERS	Setting of user rights to the Brownfield
BR_COUNTRY	List of the countries
BR_PARAM	Parameters of the database
BR_LOG	Log table of the operation

## Conclusion

We have processed the COBRAMAN knowledge database matrix. We suppose additional development of the matrix (for example definition of Contamination table structure or Project documentation storage solution). Next WP3 meeting will be done 8<sup>th</sup> of February 2010 in Ostrava. This is a deadline for solving all open question about the database.

We suggest the data collection and authorization should be following:

1. data collection – Bydgoszcz (PP3)
2. data implementation and maintenance - Ostrava (PP5)
3. data authorization – all PP