

CENTROPE_MAP: Building a Cross-Border Geo-Data-Infrastructure

Timo VON WIRTH, Manfred SCHRENK

(Mag. Timo von Wirth, Project Manager, multimediaPLAN.at, Baumgasse 28, A-1030 Wien, tvw@multimediacplan.at)
(DI Manfred Schrenk, Managing Director, multimediaPLAN.at, Baumgasse 28, A-1030 Wien, schrenk@multimediacplan.at)

Providing a high-quality spatial data infrastructure and efficient tools for spatial analysis with new information and communication technologies are fundamental tools for political and economic decision support within the increasing competition between European regions. For a common development of the Centrope region, cross-border access to adjusted and standardized spatial data sets is essential. In the framework of the EU-Interreg IIIA-Project “Building a European Region”, a political and institutional basis and a reliable cooperative structure will be elaborated. (www.centrope.info). Centrope MAP is a pilot project within the main subject area „Regional development and transportation“.

The enlargement of the European Union with 10 accession countries mainly located in middle and eastern Europe is seen as a challenge and development chance for Austria and the bordering members. Beside the Vienna Region consisting of the Austrian states Burgenland, Lower Austria and Vienna the Centrope area also includes the neighboring Jihomoravsky (South Moravia) and Jihočeský (South Bohemia) regions in the Czech Republic, the districts (Kraje) Bratislavský and Trnavský in the Slovak Republic as well as the regions (Megalopolis) Moson-Györ-Sopron and Vas in Hungary.

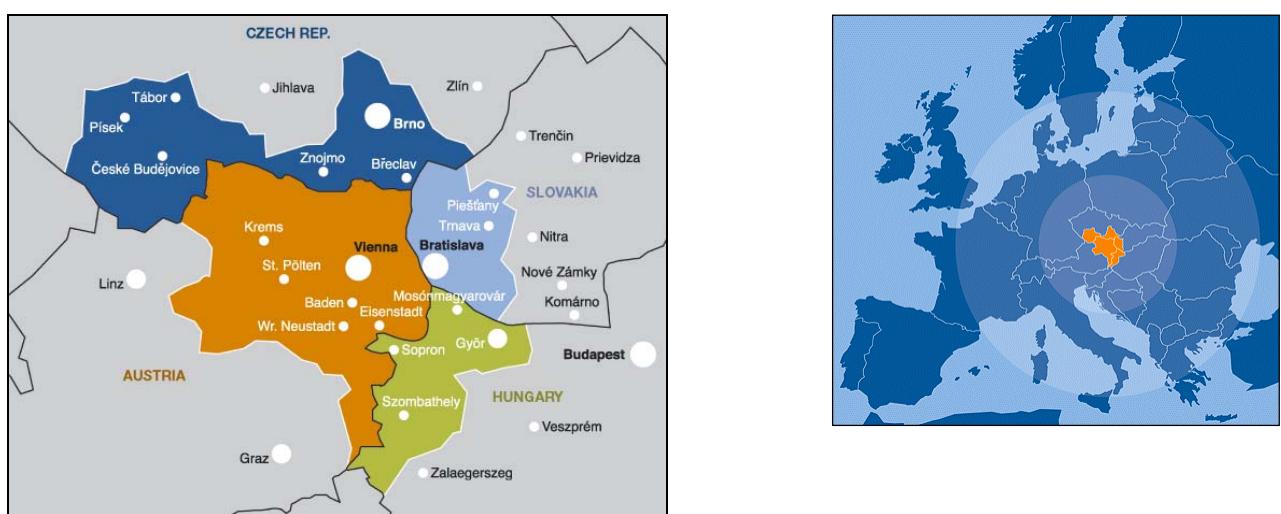


Fig.1: Centrope region - Geographic Overview [Source: http://centrope.com/static/files/centrope/centrope_region.jpg]

The economic region Centrope is pursuing a joined marketing with the slogan „4 Countries – 1 Region“. The modified motto: „4 countries – 1 region – 1 digital geodataset!“ can be stated as a common goal for the digital information system Centrope.

On behalf of the public planning association PGO, a cooperation of the three planning divisions from the Austrian states Lower Austria, Burgenland and Vienna, a digital base map for the Centrope region has already been generated. During this first project period the integration and harmonization of spatial data focused on the Austrian states. The process of standardization as well as cooperation initiatives for easier data access and data exchange have already been a demanding challenge on Austrian level. Centrope Map picks up basic principles from the base map for the development of a regional spatial data infrastructure and pursues the active integration of new data and know-how.

The pilot scheme includes the establishing of a technical framework which allows distributed data management within the whole region in the midterm. Therefore a data and knowledge exchange project webpage is developed based on a content management system. The webportal includes a „Online Search“ function for the given metadata describing Spatial data sets. Furthermore an OpenSource MapServer for the visualisation of topographic data. Another aspect of the project work is the description of possibilities for the integration of permanent monitoring data. Integrating spatial monitoring applications allows the data use for scenarios and development predictions. In the long-term the initiative aspires a data management with full interoperability of systems and formats, based on international standards. This would also include a consistent metadata documentation as well as general agreements on data provision and data use.

Therefore the implementation includes the following work packages:

- Development and further extension of spatial and attribute data for the entire Centrope region
- Harmonization of data formats and procedures for a common intraregional data use
- Implementation of a basic online spatial data catalogue
- Configuration of an Internet Map Server for visualization of regional spatial data
- Consulting on the potentials of integrating spatial monitoring data for planning purposes
- Networking and international communication with stakeholders from all parts of the Centrope region

With respect to INSPIRE guidelines on European level, Centrope MAP project should be built on the following key principles:

- Data should be collected once within the region and maintained at the level where this can be done most effectively.
- Spatial information and related attribute data on the CentrOpe region will be combinable from different sources and can be integrated by many users and applications.
- It must be easy to discover which geographic information is available, fits the needs for a particular use and under what conditions it can be acquired and used
- Geographic information needed for planners decisions and good governance at all levels in the region should be abundant and widely available under conditions that do not restrain its extensive use.

This principles are related to political and legal agreements which are cannot be part of the project.

Info an the actual project status is available at: http://www.multimediaplan.at/PROJEKTE/CENTROPE_MAP/

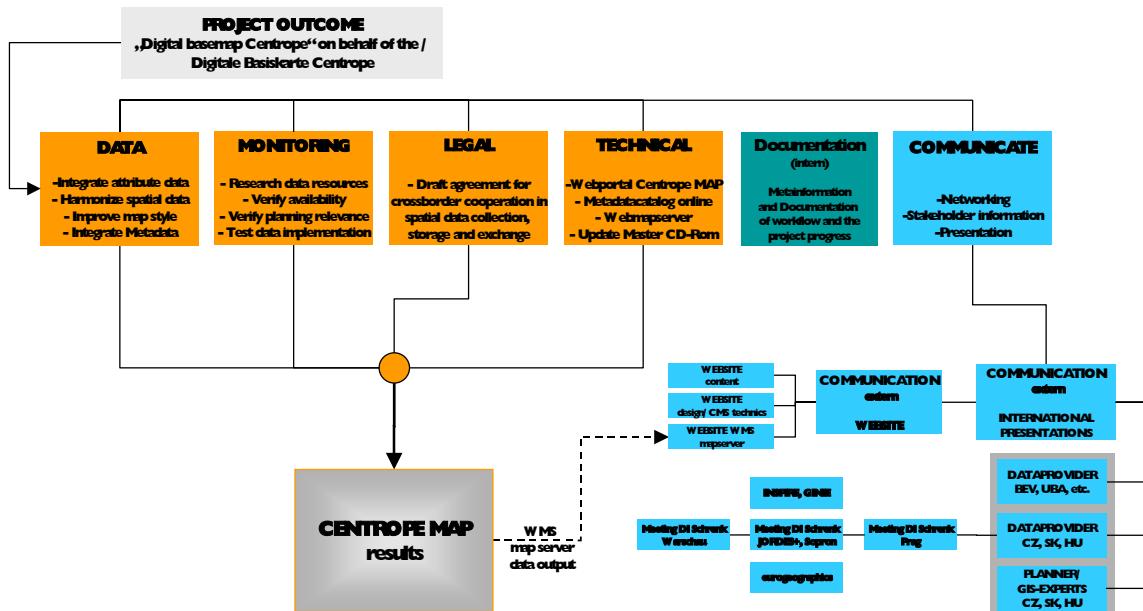


Fig.2: Project structure and consulting tasks

LAND (NUTS 0)	NUTS 1	NUTS 2	NUTS 3	LAU1 (NUTS 4)	LAU 2 (NUTS 5)	
AT	Gruppen von Bundesländern	Bundesländer	Gruppen von Bezirken	Bezirke, Gemeindebezirke (Wien)	Gemeinden	Zahl-sprengel Zahlbezirke (Wien)
CZ	Území	Oblasti	Kraje	Okresy	Obce	
HU	Statisztkai nagyrégiók	Tervezési-statistikai régiók	Megyék + Budapest	Statisztkai kistérségek	Tele-pülések	
SK		Oblasti	Kraje	Okresy	Obce	
Macon Data			regions provinces	districtis	Municipalities	

Data import, Data exchange	ESRI applications	Shape, E00, .tif
Coordinate system	WGS84/GRS80	Geographic Coordinates
Standard-projections	Lambert	UTM
Metadata-standards	OGC and ISO conform	ISO 19115 Core metadata

	De-facto Standards	IT-Standards	GIS-Standards
Content	Shape, E00 DXF	XML, UML	DHM (AT) GML
Inter-operabilität	.NET Java	HTTP, HTML, XML, XML, UML	OGC-WMS SVG

	W	NÖ	B	AT	CZ	HU	SK
Allgemein	Fläche	+	+	+	+	+	+
Umwelt	Flächennutzung	-	-	-	-	-	-
	Umweltdaten	0	0	0	0	0	0
Demographie	Bevölkerungsdichte	+	+	+	+	+	+
	Bevölkerungszahl	-	-	-	-	+	+
	Bevölkerungsentwicklung	+	+	+	+	-	-
	Wanderung	+	+	+	+	+	0
	Bildung	-	+	-	-	0	0
Infrastruktur	Abfallwirtschaft	+	+	+	+	-	-
	Energieverbrauch	0	0	0	0	0	0
	Verkehr	0	-	0	+	-	0
Versorgung	Gesundheit	-	-	-	-	-	-
	Bildungseinrichtung	0	0	0	0	0	0
	Wohnqualität	0	0	0	0	0	0
Wirtschaft	Arbeitslose	+	+	+	+	-	+
	Erwerbstätige	-	-	-	-	-	-
	Kennzahlen	-	-	-	-	-	-
	Wirtschaftszweige	+	+	+	+	0	0
Verkehr		-	-	-	+	0	0

	W	NÖ	B	AT	CZ	HU	SK
Infrastruktur	Bahn	+	+	+	-	+	-
	Energie	0	-	0	0	-	-
	Kommunikation	0	-	0	0	0	0
	Luftfahrt	-	-	0	0	-	-
	öffentlicher Verkehr	+	0	0	0	0	0
	Straße	+	-	+	-	-	-
	Versorgung	0	0	0	0	0	0
Naturraum	Atmosphäre	0	-	0	0	0	0
	Biosphäre	+	+	+	0	+	+
	Hydrosphäre	0	-	0	0	+	+
POI	Allgemein	0	0	-	0	-	-
	Katastrophenschutz	0	-	0	0	0	0
	Kulturlandschaft	0	0	-	0	0	0
	Soziale Infrastruktur	0	0	0	0	0	0
Realnutzung	Realnutzung	+	+	+	0	+	+
Rechtlich	Land- und Forstwirtschaft	0	-	0	0	0	0
	Natur	0	+	+	0	0	0
	Raumordnung	-	-	0	0	0	0
	Wasser	0	-	0	0	0	0
Siedlung	Bevölkerung	+	+	+	+	+	+
	Siedlungsraum	0	-	0	0	-	-
Topographie	Allgemein	0	-	0	0	-	-
	Spezifisch	0	-	0	0	0	0
Wirtschaft	Arbeitsmarkt	-	0	0	0	0	0
	Betriebe	-	0	0	0	0	0
	Finanzen	0	0	0	0	0	0
	Tourismus	0	0	0	0	0	0

Fig.3, 4, 5, 6: Systematically structuring existing and needed information and building on standards is crucial for project success

Fig. 7, 8, 9, 10: Actual examples from CENTROPE MAP

