

 **Notes from the HUMBOLDT Project**

Dear Reader,

In the last months several important conferences in the context of spatial data infrastructures and geographic information science took place. HUMBOLDT was actively engaged at the Towards eEnvironment Conference in Prague, the AGILE Conference in Hanover, at the GSDI11 / 3rd INSPIRE Conference in Rotterdam, and at the Towards INSPIRE Workshop at Székesfehérvár. In this Newsletter of the HUMBOLDT project, we will furthermore inform you about the HUMBOLDT Open Source Release and the related Community Website, new HUMBOLDT Scenarios, as well as further ongoing activities.

Enjoy reading and please do not hesitate to give us your feedback.

Dr. Eva Klien, Co-ordinator of the HUMBOLDT Project

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The HUMBOLDT project in brief

The four-year EU project HUMBOLDT contributes to the implementation of a European Spatial Data Infrastructure (ESDI) that integrates the diversity of spatial data available for a multitude of European organizations. It is the aim of this project to support the management and advancement of important parts of the implementation process of this ESDI.

The main goal of the HUMBOLDT project is to enable organizations to document, publish and harmonize their spatial information. The software tools and processes created will contribute to the implementation of an Infrastructure for Spatial Information in Europe as planned by the INSPIRE initiative, meeting the goals of Global Monitoring for Environment and Security (GMES).

[Learn more about HUMBOLDT by visiting our Website.](#)

 **Project News**

HUMBOLDT Open Source Release

The first components of the HUMBOLDT framework are now published under the **GNU Lesser General Public License version 3** (LGPL v3). They are available for free download at the [OSS Community Website](#).

This developer preview release includes the following software components:

- The HUMBOLDT GeoModel Editor, a graphical editor to support the formal and complete specification of conceptual data models, specifically tailored for the handling of geodata specifications;
- The HUMBOLDT Alignment Editor, a tool that supports the definition of conceptual schema transformations;
- The Mediator Service, a proxy service that executes transformation chains to provide harmonised geodata;
- The Workflow Design and Construction Service, a service that analyses data sets and decides which processing is required to match a target product description;
- The Context Service, a service that can be used to define the transformation target product;
- Several transformation services exposed as OGC Web Processing Services, such as Coordinate Transformation Service and Edge Matching Service.

More detailed descriptions of services and applications, such as full specifications, are available under the same license as the software itself. Furthermore, a forum, wiki and issue tracker are made available.

With this first major step towards the creation of an Open Source Community the HUMBOLDT consortium invites developers to test the design and expandability of the framework. Suggestions and contributions are highly welcome.

In the meantime the development process for the second version of the HUMBOLDT framework was initiated. The progress of this process can be followed through the [Community Website](#), and the release candidates are expected to be published within October 2009.

New Scenarios in HUMBOLDT

[Scenarios](#) are an essential element of the HUMBOLDT project in which the different HUMBOLDT components are applied and tested under realistic conditions. The Scenario Mid Term Call launched in 2008 resulted in the adoption of two new Scenarios:

Sustainable Urban Atlas

The Sustainable Urban Atlas Scenario refers to the development of an Urban Atlas in the context of the Urban Planning scenario.

It is based on the existing use case specifications in the HUMBOLDT Urban Planning Scenario to explicitly address the issue of policy integration at the local level in the context of sustainable urban development, and thereby addresses gaps in the current HUMBOLDT Urban Planning Scenario regarding the core GMES perspective. Furthermore, it provides direct linkage to the urban component of the GMES land monitoring core service and in particular its specification for the development of the urban atlas. Finally, this extension to the HUMBOLDT Urban Planning Scenario provides a direct contribution to the evolution of the DG Regio sponsored development of a pan-European Urban Atlas applicable to the 500 principle cities of Europe.

Transboundary Catchment

In order to strengthen the effectiveness of the Protected Areas Scenario application a combined scenario was developed that aims to permit full integration of both in a transboundary context concerning the integrated management of cross border catchment areas. In most cases big rivers flow along different countries and the borders of their catchments cross national borders. I.e., nature, environment and ecology represent a continuum in which man-made borders disappear. All cases where catchments cross the borders of countries imply that those catchments are managed by more than one state in different and often conflicting ways: in those cases it is needed to take into consideration the interests, historical roots, as well as laws and rules of all neighbouring states across the national borders. The overall objective of the Transboundary Catchment Scenario is to create a demonstrative but operational context showing how the HUMBOLDT Framework can support data harmonization needs in transboundary catchment areas.

HUMBOLDT Consortium Meetings in March and September 2009

In March the first HUMBOLDT Consortium Meeting of 2009 took place in Milan, Italy. The meeting was hosted by the IREA (Institute for Electromagnetic Sensing of the Environment) of the National Research Council of Italy (CNR). The focus of this meeting was set on the Scenario work since the development of demonstrators is of major importance for the current and upcoming project years. They are the basis for the necessary feedback to progress the implementation of the HUMBOLDT framework according to the users' needs.

The second Consortium Meeting of 2009 took place in September in Prague, Czech Republic and was hosted jointly by HSRS (Help Service Remote Sensing) and FMI, the Forest Management Institute of the Ministry of Agriculture of the Czech Republic. There, all Scenario Leaders presented the advancement of their data models and the status of their demonstrator development. Moreover, the discussions on the long-term sustainability of HUMBOLDT were intensified.

HUMBOLDT at the Towards eEnvironment Conference in Prague

The HUMBOLDT project was presented by HUMBOLDT partners in several sessions at the [Towards eEnvironment Conference](#) in Prague, 25-27 March 2009. Dániel Kristóf from the Institute of Geodesy, Cartography and Remote Sensing, Hungary (FÖMI) provided a comprehensive overview on the recent developments in HUMBOLDT with his presentation "The HUMBOLDT project: towards the harmonization of spatial information in Europe" in the Session on GMES related projects on Friday morning. Already on Wednesday afternoon, Otakar Cerba from the Czech Help Service Remote Sensing (HSRS) gave a presentation on "HUMBOLDT Scenario Forest: Practical example of Forestry Data Harmonization", which illustrated a concrete application for harmonization software. Further, David Ludlow from the University of Western England (UWE) spoke on the Urban Atlas Use Case and its potential application in the HUMBOLDT project in the Friday morning session on GMES related projects.

The overview of Dániel Kristóf on the recent developments in Humboldt is available at <http://www.e-envi2009.org/presentations/S4/Daniel.pdf>.

The presentation on the Urban Atlas Use Case is available at the [Publications & Presentations](#) section of the HUMBOLDT Public Website.

HUMBOLDT at the Towards INSPIRE International Workshop in Székesfehérvár

The HUMBOLDT project was presented by HUMBOLDT partners at the [Towards INSPIRE International Workshop](#) 18-19 March 2009 in Székesfehérvár, Hungary. Dániel Kristóf from the Institute of Geodesy, Cartography and Remote Sensing, Hungary (FÖMI) provided an experience report of a national mapping agency about projects aiming at fostering the European Spatial Data Infrastructure and implementing INSPIRE. His presentation “Insight into INSPIRE implementation from a national mapping agency: Fömi’s participation in the ESDIN and HUMBOLDT project” was one out of two statements of national and regional mapping agencies about the INSPIRE implementation.

The presentations will be available as workshop proceedings.

HUMBOLDT at the GSDI 11 World Conference 2009

The theme of the 11th edition of the [GSDI Conference](#) on June 15-19, 2009 in Rotterdam was “**Spatial Data Infrastructure Convergence: Building SDI Bridges to Address Global Challenges**”. One of the major components of this conference was the [3rd INSPIRE Conference](#), where HUMBOLDT played an active role with its workshop „Tools and Experiences in Implementing INSPIRE Data Specifications III: HUMBOLDT Data Harmonization Tools in Action“. At this Workshop, HUMBOLDT partners shared their experiences in designing and developing processes and an open source software framework including tools for different steps in the data harmonization process. These were demonstrated using examples of data harmonization issues that have been encountered in the different cross-border and multilingual HUMBOLDT application scenarios as well as during the testing of INSPIRE data specifications.

In the workshop participants learned about potential solutions for data harmonization and got a chance to see them in action. They also got to know ways to participate in the further development of HUMBOLDT, e.g. by joining the HUMBOLDT Developer Community or the HUMBOLDT User Community.

The presentation is available at the [Publications & Presentations](#) section of the HUMBOLDT Public Website.

HUMBOLDT at the 12th AGILE International Conference on Geographic Information Science

At this year’s [12th AGILE International Conference on Geographic Information Science](#) in Hanover, 2-5 June 2009, HUMBOLDT hosted the pre-conference workshop “Challenges in Geospatial Data Harmonisation” on June 2nd. The one-day workshop was organised by HUMBOLDT partners Fraunhofer IGD (FHG-IGD), Technical University of Delft (TUD), Swiss Federal Institute of Technology (ETHZ) and Technische Universität München (TUM) in order to bring together researchers from different communities to discuss current challenges, approaches, experiences and open questions in the field of geospatial data harmonisation in the context of European initiatives like INSPIRE and GMES.

The HUMBOLDT project and its approach to and tools for geospatial data harmonisation was introduced in a keynote by Astrid Fichtinger, Eva Klien and Christine Giger. In addition

to that, Thorsten Reitz and Marian de Vries presented the HUMBOLDT experiences in using the Ontology Mapping Language for conceptual schema matching.

The presentations held at the workshop are available for download at <http://www.esdi-humboldt.eu/events/agile2009.html>.

In addition to that a full paper by Thorsten Reitz and Arjan Kuijper of Fraunhofer IGD was presented at the AGILE Conference. The paper describes the idea and design behind the HUMBOLDT Alignment Editor (HALE) which is a tool for facilitating the alignment of geospatial data schemas that is being developed in the context of the HUMBOLDT project.

The full paper is available at [SpringerLink](#).

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