

## At A Glance

The HUMBOLDT Scenarios

## HUMBOLDT Project Partners

All Across Europe



The HUMBOLDT project has a total value of 13.5 million euros and is co-funded by the European Commission. 26 partners from 14 European countries are working under the direction of the Fraunhofer Institute for Computer Graphics, located in Darmstadt, Germany.

Photo: Anette Breu/Intergraph

Each HUMBOLDT Application Scenario is situated in a particular application area using HUMBOLDT Tools and Services for their demonstrators (with focus on specific harmonisation issues).

### Border Security

Real-time sensor input processing combined with large-scale geodata for border control  
(Data harmonisation in an INSPIRE and GMES context)

### ERiska

Cross-border disaster management in a flooding situation  
(Data preparation and data harmonisation in an INSPIRE and GMES context)

### Forest

Forest management in a European context  
(Data preparation and data harmonisation involving also non-HUMBOLDT tools)

### Protected Areas

Cross-border management of protected areas  
(Edge matching and data harmonisation in an INSPIRE and GMES context)

### Urban Planning

Providing data on urban planning in a European context  
(Data preparation and data harmonisation involving also non-HUMBOLDT tools)

### Atmosphere

Real-time air quality information as a location-based service  
(Workflow control and service integration in a mobile environment)

### Sustainable Urban Atlas

Documenting urban regions in Europe for policy support concerning the control of greenhouse gas emissions  
(Standardised metadata handling and indicator calculation in an urban environment)

### Transboundary Catchment

Cross-border management of catchments, based on data related to the Water Framework Directive (WFD)  
(All aspects of data harmonisation related to INSPIRE, GMES and the WFD)

### Ocean

Disaster management in case of oil spill crises in different European regions, taking into account oceanographic and land-related geodata  
(Data harmonisation and service provision)

⊞ Fraunhofer-Institut für Graphische Datenverarbeitung IGD, Germany

⊞ ETRA Investigacion y Desarrollo, Spain

⊞ Help Service Remote Sensing, Czech Republic

⊞ LogicaCMG UK, UK

⊞ Institut Géographique National, France

⊞ Intergraph CZ, Czech Republic

⊞ Intergraph Deutschland, Germany

⊞ ETHZ - Swiss Federal Institute of Technology Zurich, Switzerland

⊞ Delft University of Technology, Netherlands

⊞ University of Rome "La SAPIENZA", Italy

⊞ Institute of Geodesy, Cartography and Remote Sensing (FOMI), Hungary

⊞ Marine Information Service 'MARIS' BV, Netherlands

⊞ KTU Regional Science Park, Lithuania

⊞ Technische Universität München, Germany

⊞ University of the West of England, UK

⊞ Institut Français de Recherche pour l'Exploitation de la Mer, France

⊞ National Environment Research Council, UK

⊞ Hellenic Centre for Marine Research, Greece

⊞ Telespazio, Italy

⊞ GISIG - Geographical Information Systems International Group, Italy

⊞ Consiglio Nazionale delle Ricerche, Italy

⊞ Forest Management Institute, Czech Republic

⊞ Instituto Geográfico Português, Portugal

⊞ Collecte Localisation Satellites, France

⊞ Högsolan i Gävle, Sweden

⊞ Technische Universität Darmstadt, Germany

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## SUPPORTING THE HARMONISATION OF SPATIAL INFORMATION IN EUROPE

Attribute	Value
identifier	9469-IRLEF
name	LENA
condition	natural
delineationknown	yes
length	4472
level	1
streamorder	1

Attribute	Value
identifier	9411-HJED
name	ALDAN
condition	natural
delineationknown	yes
length	2273
level	1
streamorder	1

For more information, concise facts, the training material and demonstrators developed by each Scenario see

<http://www.esdi-humboldt.eu/scenarios.html>

## The HUMBOLDT Project

Motivation, Goals and Results

**HUMBOLDT supports cross-national harmonisation of spatial data and the implementation of the European Directive INSPIRE (Infrastructure for Spatial Information in Europe) in applications related to GMES (Global Monitoring for Environment and Security). The project, which started in 2006, is funded by the European Commission within the 6th Framework Programme. 26 partners from 14 European countries collaborate on the development and enhancement of IT solutions to support the harmonisation of spatial data to be used within Spatial Data Infrastructures (SDI).**

The availability of spatial data is – despite ongoing efforts – still highly scattered and heterogeneous. Data is present in different formats and systems across different countries and application domains. Therefore, cross-border co-operation aiming at more effective monitoring and planning is very difficult – if not impossible – without specific data harmonisation tools and services.

In HUMBOLDT, harmonisation is understood as a process of transforming the available geodata into a pre-defined information product (such as an INSPIRE data specification) which can be used across various application areas and countries. In order to reduce the complexity for end-users, HUMBOLDT approaches cover the data harmonisation process as a whole. HUMBOLDT developments are based on the existing know-how within and outside the GI community in order to efficiently support and advance the process of the implementation of a European Spatial Data Infrastructure. High-quality and easily accessible geo-information will deliver enormous value to different fields of application in politics, government, research and business.

The feasibility and benefits of software tools and services as well as the harmonisation processes developed in HUMBOLDT are demonstrated in several Application Scenarios. In these user-driven, cross-border, GMES-related Application Scenarios the different HUMBOLDT Framework components are applied and tested under real-world conditions. Tools and services of the HUMBOLDT Framework will support spatial data and service providers in offering standardised spatial information.



Photo: Thorsten Reitz, Fraunhofer IGD

## Sharing a broad vision

The aim to harmonise spatial information for sustainable development in Europe



Photo: Thorsten Reitz, Fraunhofer IGD

**HUMBOLDT Tools and Services support and advance ESDI enablement and development by providing the functionalities for covering the data harmonisation process as a whole. The components are built on state-of-the-art technologies and standards.**

The methodological framework of HUMBOLDT led to the establishment of several tools and services which are available as Open Source under LGPL v3.

One of the major goals of the framework was to be minimally invasive, i.e. not to replace existing systems but rather support and supplement them by specific capabilities needed in the data harmonisation process. Each component supports different steps of the data harmonisation process and can be used on its own. Furthermore, both online and offline modes of processing are supported.

- ☒ HUMBOLDT GeoModel Editor (GME)
- ☒ HUMBOLDT Alignment Editor (HALE)
- ☒ HUMBOLDT Workflow Editor (WE)
- ☒ HUMBOLDT Workflow Repository Service (WRS)
- ☒ HUMBOLDT Mediator Service (MS)
- ☒ HUMBOLDT Conceptual Schema Translation Service (CST)
- ☒ HUMBOLDT Edge Matching Service (EMS)
- ☒ HUMBOLDT Coordinate Transformation Service (CTS)
- ☒ HUMBOLDT Language Transformation Service (LTS)

To download software or to get involved as a tester or developer, please visit

<http://community.esdi-humboldt.eu>

## Extend the Knowledge

Training & Community Building

**Being an Open Source project HUMBOLDT always welcomes people who would like to contribute to the development of the project software.**

The HUMBOLDT Community Website was created to establish and maintain bi-directional communication between end-users, data integrators / custodians and developers. The website offers documentation on the developed software; contains news about on-going work and provides several means for interested parties to give their feedback on HUMBOLDT Tools and Services, such as the submission of bug reports and feature requests.

The Community Website furthermore offers the opportunity to share and discuss experiences, requirements and documentation.

**Training efforts in HUMBOLDT are of major importance as they increase the impact and effectiveness of the project outcomes.**

HUMBOLDT provides selected training tools and actions for the user communities of the HUMBOLDT Tools and Services, the communities of GMES and INSPIRE, and in a more general context, the geospatial data harmonisation interest community. The Training Courses mainly consist of lectures and interactive tutorials. Course levels are structured in a modular and flexible way. The HUMBOLDT Training Platform constitutes the infrastructure hosting courses and material.

For more information on HUMBOLDT Training please visit

<http://www.esdi-humboldt.eu/training.html>